April 1934

# TECHNOLOGY REVIEW

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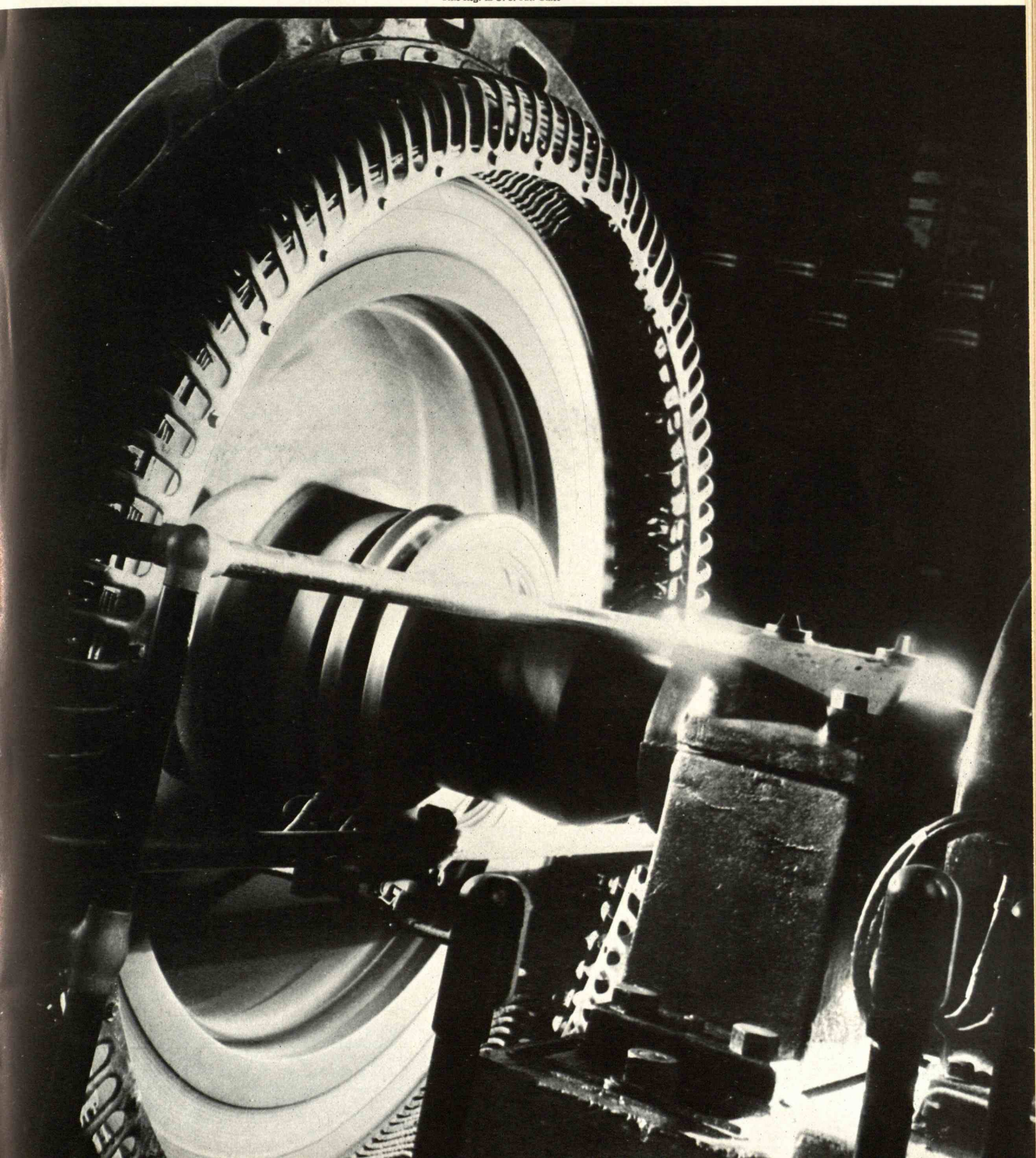

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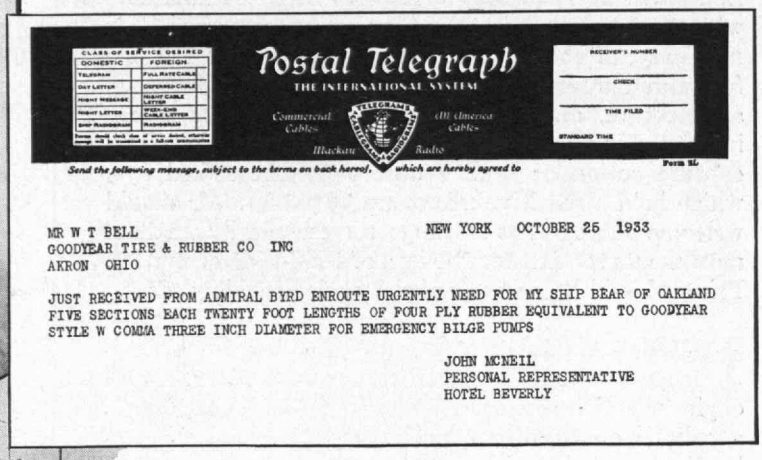
# THE TABULAR VIEW

A LARGE number of photographers, both professional and amateur, contribute to the pages of The Review, and it is through their skill and ingenuity that the magazine has achieved distinction in the field of photographic illustration. The Editors are anxious to enlarge this group of contributing photographers and we extend an invitation to Review readers to suggest or contribute smart and novel copy. We address this invitation particularly to that large army of gifted amateurs who operate observant and revealing cameras. It is necessary, of course, that prints submitted be suitable for reproduction and germane to science, engineering, architecture, and related fields. We are particularly interested in photographs which emphasize scale, which capture action or beauty unseen by the naked eye, which hold a sensitive mirror up to nature. We should welcome photographs of things microscopically small, of movements too fast for the eye, of the inside of matter. Prints should be accompanied by adequate legends.

PROBLEMS inherent in city planning are a challenge to the best-trained minds of the day. As an engineer and a sociologist, EDWIN S. BURDELL, '20, is peculiarly qualified to examine these problems comprehensively, as his article on page 253 demonstrates. Mr. Burdell, sometime instructor in English and History at M.I.T., is Director of the Emergency School for the Unemployed established by Ohio State University. His article is based upon a lecture given by him in the new Course in City Planning of M.I.T.'s School of Architecture — the only City Planning Course in America leading to the bachelor's degree. Other articles contributed to The Review by Mr. Burdell include: "Mexican Chaos and American Responsibility," May, 1926, and "Mussolini and Pilsudski Versus Democracy," January, 1927. ¶ H. T. MANN is Associate Professor of Petroleum Engineering at the Institute. He received his B.S. degree from the University of Missouri in 1908 and taught metallurgy and ore dressing at that institution for nearly a dozen years. He has also held a professorship in the Butte School of Mines, and in 1926 he received his doctorate in science from Technology. He has at various times served oil companies as petroleum engineer, specializing in valuations. His article is drawn from a popular science lecture delivered by him at M.I.T. in March. ¶ JOHN W. LANE, '31, is an assistant in the Mechanical Engineering Department at Technology. His article on page 263 will be useful to those automobile drivers who wish to know more about the characteristics of their cars. It is timely because of the growing interest in the effects of streamlining. ¶ W. C. WEST, '11, who contributed the photograph at the bottom of page 258, is an officer of the Chicago Camera Club and he was active in assembling the great photographic exhibition at the Century of Progress. The Review acknowledges not only his frequent contributions, but his valuable assistance in obtaining exceptional prints from many sources.

# WITH BYRD IN POLAR SEAS!

## His Supply Ship "Bear" Clears Bilge with GOODYEAR SUCTION HOSE



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AKRON OHIO

NEW YORK OCTOBER 25 1933

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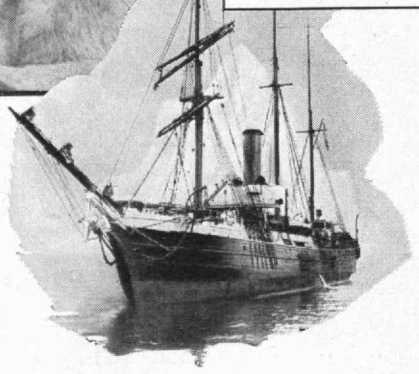
JOHN MCNEIL
PERSONAL REPRESENTATIVE
HOTEL BEVERLY



### ADMIRAL ORDERS STYLE "W"

### His Own Message

### Reads Like a G.T.M. Specification

Byrd and his gallant crew are down there now, alongside the great ice barrier at Bay of Whales and Little America. Only the radio binds them to kin.

Standing by also has been the Admiral's supply ship, "Bear of Oakland", equipped with another steadfast connection with safety—*Goodyear Style "W" Suction Hose.*

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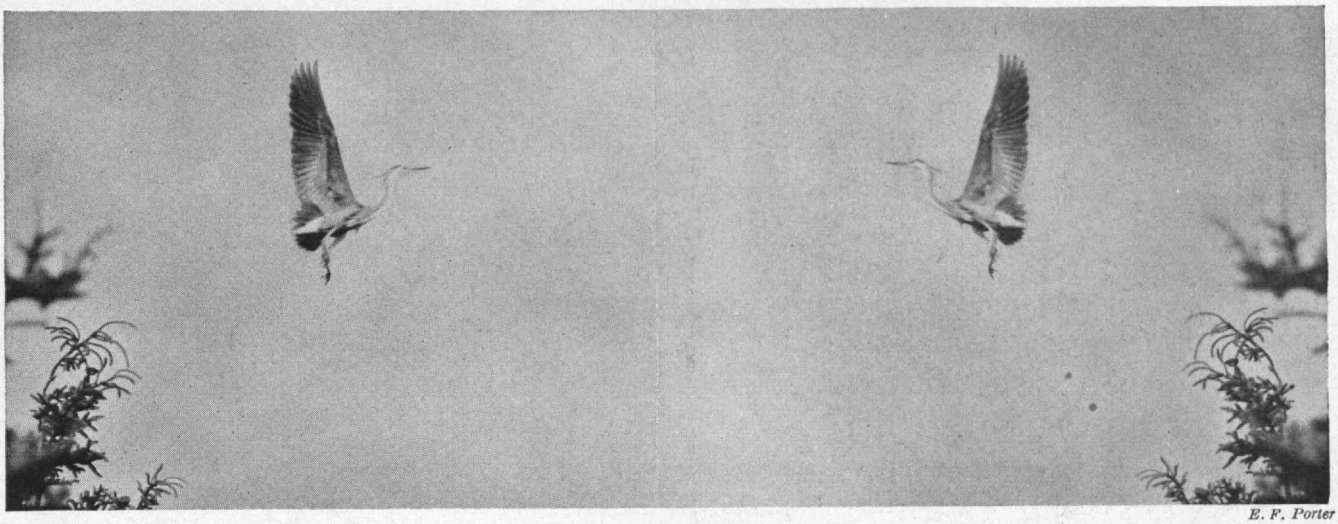

*E. F. Porter*

*Flight*

## CONTENTS

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THE
TECHNOLOGY
REVIEW

Vol. 36, No. 7

April, 1934

# Toward Better Citizens

## *The Social Implications of City Planning*

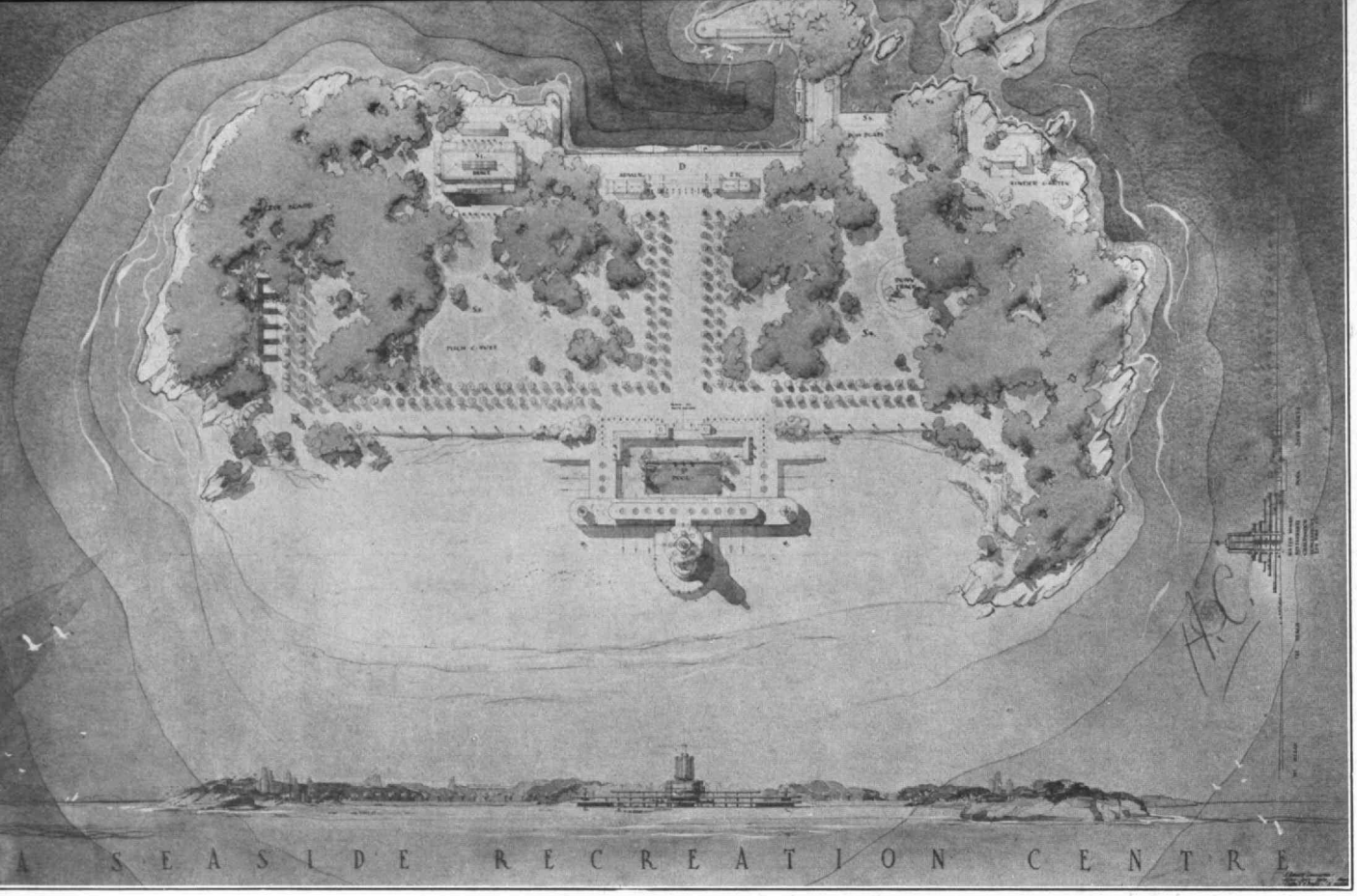
By Edwin S. Burdell

THE field of city development, construction, and administration was long ago preëmpted by those trained in the manipulation of physical materials. Somehow, some way, it has been assumed that by some hocus-pocus fine streets, civic centers, parks, and new housing will result in improved standards of living, more stable and happier family life; and consequently, less vice, crime, poverty, and disease. But how much have those rigorously trained in the knowledge of the structure and processes of society, as well as the technique of the collection and interpretation of social data, been called into consultation by engineers and public officials? The health authorities alone exercise a certain negative control over urban life in providing minimum standards of light, air, and sanitary facilities.

Without claiming credit for any great wisdom, it is timely that the sociologist should point out how lopsided the philosophy as well as the techniques of city development have been. I might fortify my statements by quoting Charles St. John Chubb, Department of Architecture, Ohio State University, at a recent meeting of the Ohio State Planning Conference: "I have never planned a city, yet I believe that such planning may be divided into two general aspects, the material and the social. Under the material we find the civil engineer designing the streets and highways; the sanitary engineer planning the sewage disposal plants and water supply systems; the architect providing beautiful buildings for public and private use; and the landscape architect developing our resources of natural beauty. I thoroughly believe that no one of these three is competent to plan a city. On the social side of planning we find that the sociologist, who thinks not so much of the material things of the city, but rather of the individuals living there, has been ignored."

One of the principal weaknesses of those responsible for city plans has been their failure to recognize the existence of what the sociologist calls the natural areas of the city; that is to say, to understand the ecology of the city. The word "ecology" is borrowed from the biological sciences. The sociologist studies man in relation to his environment, just as the botanist studies cactus in terms of the desert, or the zoölogist studies the coral in terms of the warm salt seas. There is no such thing as man apart from his physical environment. One characteristic of man is outstanding, however: he can change his place relationship to the physical world, which plants cannot do and which animals may do only to a limited degree. Man may not only move from place to place seeking a suitable habitat, but he may modify the physical conditions of the place where he is by the use of irrigation, drainage, and fertilizer, and he may fabricate suitable clothing and shelter which, to some extent, may make him independent of existing adverse soil and climatic conditions.

This concept of the mobility of mankind is so generally held, however, that many unthinking persons react to a statement about unhealthy and undesirable urban conditions with the answer, "Well, let them move somewhere else." In other words, it appears to one-half of the world that if the other half happens to live in slums that they do so because they like it. We




*On this and the opposite page are drawings executed in M.I.T.'s School of Architecture.* Above: *"A Seaside Recreation Center" by H. Abbott Lawrence, '32.* Opposite: *"An Industrial City" by G. Bunshaft, '33. M.I.T. now offers a five-year Course in City Planning*

must realize that the modern city dweller without economic resources is fairly fixed in habitat and relatively immobile almost to the degree of life in the plant world. He may take to the road with his whole family piled in a model T Ford, but for the most part the millions of urban dwellers remain where they are, the helpless shut-in victims of the space arrangements, the physical shelter, and the mechanical transportation with which a crazy industrial and economic system surrounds them.

All of these material controls of his existence react in the social behavior he acquires and passes on by precept and example to his children. Along with the space arrangement of people in cities, we find arrangements based on distinguishing racial or cultural characteristics, or differences in social and economic status of the residents. But curiously enough most city plans are made primarily in terms of vehicular traffic flows, topographical features, or existing transportation lines, without regard for the social processes that determine the distribution of population and institutions, and the influence of these processes on future growth and expansion. "Black belts" are just as real in terms of city growth as the highest hill or deepest railway cut, yet you never find them mentioned in city plans. Ghettos in medieval Europe were physical as well as social. Their limits were defined even by stone walls. Today the Jewish rag-picker's section, or the colony of Italian push-cart peddlers is as real, though voluntary, as were the segregated areas of former days. The modern red light district, where it still exists, is quite as much a reality in affecting real estate values as any so-called use classification of a prosaic zoning ordinance, yet you never see it recorded on the map except perhaps in terms of some classification of building types, showing not the slightest connection with the really penetrating social and economic influence that it may exert.

Fads and fashions, purely psychological elements, when capitalized commercially, exert a profound influence on the physical and financial structure of the city. Shifting retail and residential districts present some of the interesting phenomena of city growth which invariably result in a redistribution of land values. Every city of size and importance has undergone remarkable changes from the time when it was a small town. Despite valiant efforts on the part of property owners to retain business in certain districts, the transition has gone steadily onward and in all probability always will, in spite of the temporary stabilization of uses and value due to zoning regulations.

If one looks at an ordinary city zoning map, he will see a checkerboard of well-defined areas such as industrial business, apartment house, and single family zones. These zones are determined in part by the existing use and in part by apparent trends. One of the common mistakes when zoning a city is in providing too much industrial and commercial area. Ten years ago every property owner within two miles of the center of every mid-western city envisaged a ten-story office building on his lot. That was about the time when the greatest number of original zoning plans were formulated. The result is that the older residences in the so-called down-town sections were prematurely vacated for treeless, uninviting, undeveloped suburbs where the Joneses had gone. In order to keep up with the Joneses and also not to suffer the ignominy of living behind a great 99-year lease sign carrying the legend "Ideal site for motor mart, department store, or apartment house," Mr. and Mrs. John Average Citizen left a perfectly good, substantial house to live in a flimsy Dutch Colonial frame or a fake stone and


*As the author of the adjacent article indicates, the design of new communities such as shown in the drawings on this and the opposite page is only one phase of the work of the modern city planner. Existing cities and regions must be studied with the view to using the land more intelligently and to promoting a better life for the inhabitants*

stucco "modern" house. The motor marts and department stores failed to reach out that far, but they had insisted that the trend of business was all in that direction, so zone they must for business. The old home fell upon evil days. After a year or two of vacancy it came to life as a rooming house, then a gyp tire and battery shop, or perhaps a cat and dog hospital. The depression came, income ceased, unpaid taxes mounted and perhaps then the best thing of all happened: the building was razed and the land sits in quiet anticipation of reaping the unearned increment, the pot of gold at the end of every real estate investor's rainbow. The day may come when property will be capitalized on its earning capacity and zoned on its social utility, and the rainbow chasers will confine themselves to horse racing and stock speculating. The only trouble is that it looks as if the New Deal would do something about stock speculating and little about land grabbing in the case of suburban real estate developments and land hoarding as in the case just cited.

I submit what I consider an intelligent analysis of the city, based on Carpenter's concept of three functional areas: (1) the central commercial area and its appendages, (2) the integumental or "in-between" area, and (3) the urban fringe.

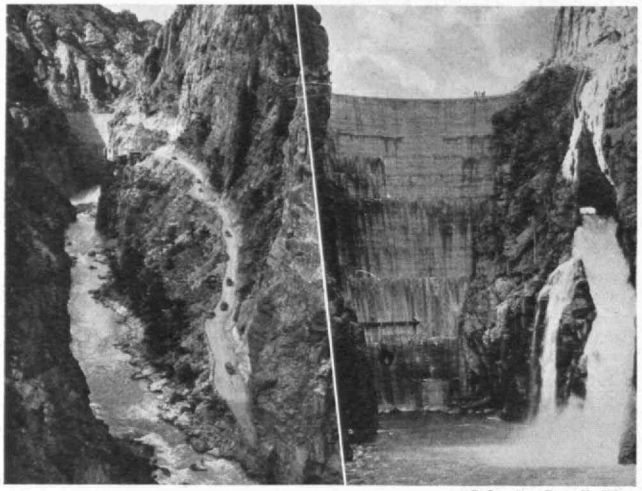
The central commercial area, according to this University of Buffalo sociologist, is principally retail merchandising, with which is associated certain appendages as (a) the wholesale merchandising area, (b) centrally located industries, (c) centrally located residential enclaves, (d) the larger hotels and higher priced apartments, (e) passenger terminals, (f) the amusement district, (g) the center of finance and of economic administration. In these down-town residential sections may be found the anomalous "gold coast" of wealthy or conservative families who refuse to join the Joneses in the suburbs, the slum, the rooming house district, and the segregated racial and nationalistic areas.

The integumental or intervening area of the city is largely residential, from inexpensive flats to more pretentious single family dwellings. Yards and gardens put in an appearance; home ownership and long-term tenancy foster the development of something approaching a neighborhood. Carpenter reminds us "that the family's economic activities carry its members daily away from home, and the mobility and anonymity of the down-town area is ever available to the individual or family group wishing to escape from the primary group control which is the essence of neighborhood life. The integumental area turns its back upon the central commercial area and its appendages, and faces the open country. When it meets the latter, it breaks down into a vaguely defined, discontinuous area that may best be described as the urban fringe, part residential, part agricultural, part industrial."

This is only one of many sociological analyses of the city. My point in reviewing it in some detail is to show, in still another way, that city planning is fundamentally a matter of social understanding and, secondarily, a problem involving T squares, drawing boards, and traffic studies.

Such a study of the so-called natural areas of racial and ethnical differentiation will throw some light upon the social problem of the Negro and the foreign-born. The Constitution of the United States guarantees full benefits of citizenship to all without regard to these factors, but we know that discrimination against the Negro is made effective by private contracts between property owners, and that the social assimilation of certain south and east European peoples is made much more slow than need be because, (*Continued on page 276*)

# The Trend



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*Above: Two views of Shoshone Dam in Wyoming, the left one showing the road through the canyon leading to the east gate of Yellowstone. Below, left: A great wave at sea. Below, right: Spent water from Conowingo Dam*

## *America Preserved*

THE creation by the Federal Government of the Historic Buildings Survey has in it the promise of great things for historic America. It is hard to realize that where France has her Monuments Historiques, England her governmental and ecclesiastical protections and restorations, the Government of the United States of America owns scarcely a single historic site (save be-monumented battlefields), not even Mount Vernon or Monticello, let alone being responsible for the care and upkeep of such buildings. We have great national parks in abundance, many statues (mostly ugly), and public buildings, but of our past we are, as a nation, singularly poor custodians. Virtually the only Federal restoration projects are Yorktown, now in progress, and Appomattox, yet only a proposal.

The Historic Buildings Survey was created as a sort of Civic Works Administration for architects. It is entrusted with no restoration whatsoever, but is to serve merely as a means of making and recording drawings of old or historic buildings which it is reasonable to suppose may disappear. Thus the drawings acquired will be the nucleus of a set of records corresponding to one section of the Musée des Archives in Paris. So far, the work has largely been confined to dwellings.

It is to be hoped that this work may be extended. There are many buildings in this country, grouped most heavily, of course, on the Eastern seaboard, which ought to have their details recorded. The Commonwealth of Massachusetts, for example, owns the original Bullfinch drawings for the State House, but architects of Bullfinch's time made no details, so these must all be recorded from measurements made on the site. An interesting investigation might yield more complete information on the state houses of the 13 original colonies.

If the work were to stop here, it would still be praiseworthy, but it carries in it the implication of a more widespread interest. Whether the Federal Government should engage in the restoration of historical monuments in this country is, to be sure, open to question. If the Greek Government let the Acropolis fall into private hands, if the Government of France carelessly relinquished its title to its cathedrals, and, if through such relinquishment, these masterpieces of historic architecture should fall to rack and ruin, it would be an international calamity. The responsibility there is clearly national. But do we have buildings in this country the loss of which would be irreparable to the history of architecture or art?

Be that as it may, the work of restoration should be promoted promptly by some one. Even the casual passer-by must notice the difference in atmosphere conveyed by the rooms of furniture in Fontainebleau and those in the American Wings of the Metropolitan and Boston Museums. At Fontainebleau, one feels that he lives in the past; in the American museums he admires a splendid collection of products of the past. In Fontainebleau, actual furnishings of an actual room used by an actual person have been preserved to an

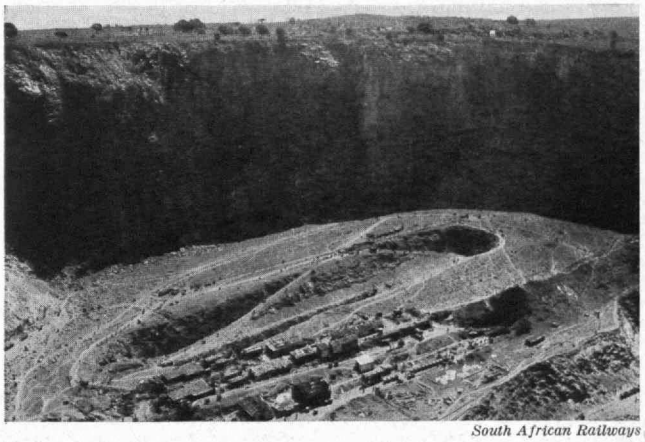
*C. M. Ripley*

*Rittase*

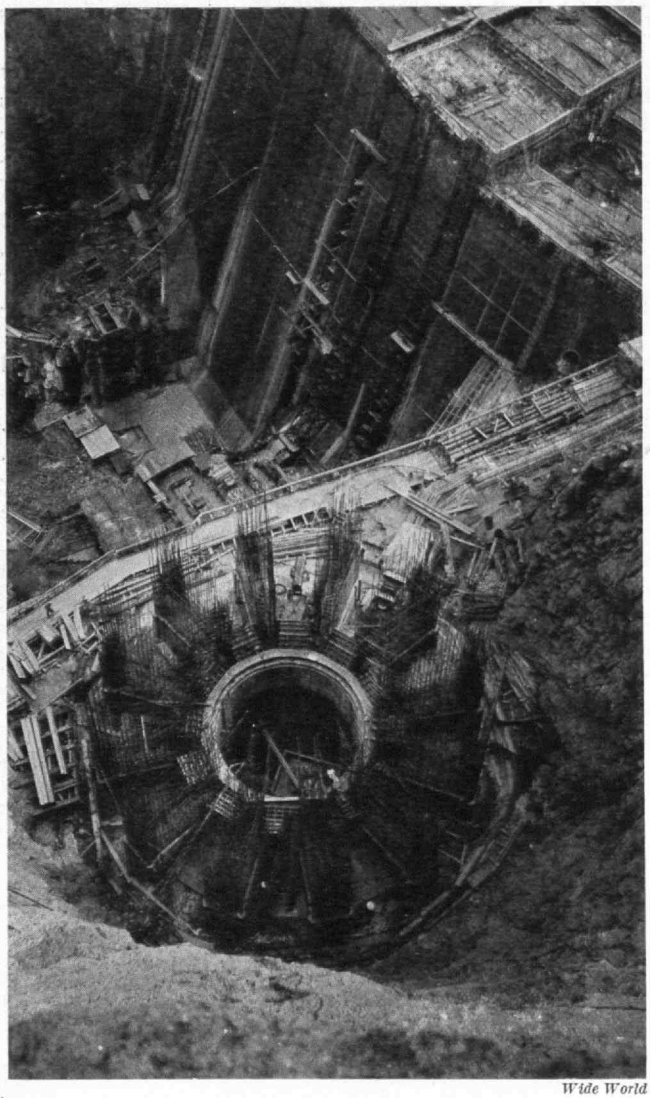
# of Affairs

unusual extent; in the Metropolitan, the spectator views excellent types. Such accuracy of restoration, not only of appearance but of spirit, is possible only for large and powerful bodies. A state government might do it; a national government surely could; one rich man has. We have before us at the moment a fine example of what intelligent private enterprise can accomplish.

Williamsburg, Va., was unique in the opportunity it offered to the restorer. In the early years the town was as important politically as Boston or New York, but because of its defenseless location, the Revolution saw its decline in favor of Richmond. The gradual decrease in the navigability of tidewater streams also played a part in the town's partial abandonment. Thus Williamsburg was spared the ravages of commercial growth and enlargement, and when Dr. Goodwin succeeded in interesting John D. Rockefeller, Jr., in the project, the town had the merit of being neither too large nor too modern.



South African Railways



Wide World

*Above: Open pit mining for diamonds. Premier Mine near Pretoria, Transvaal, South Africa. Right: Birdseye view of the Boulder Dam project taken from the 150-ton cableway and showing the installation of the low-level ring gate*

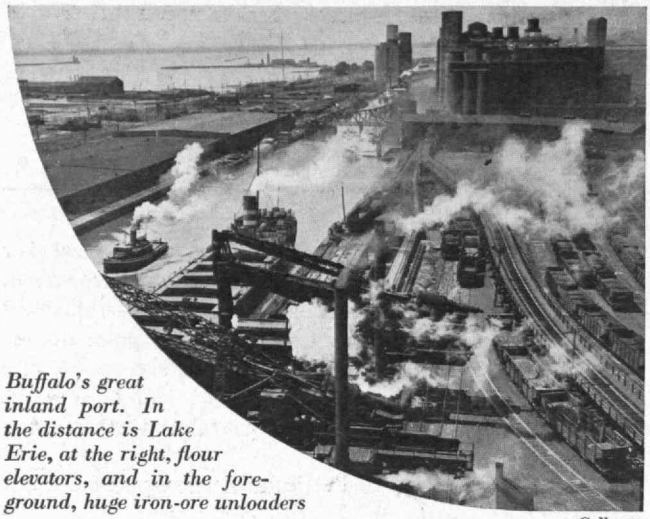
Before much physical reconstruction was undertaken, a research bureau worked for years in collecting information necessary for a proper rebuilding. The old powder magazine, the old court house and church of the town, and the president's house and the Indian College of William and Mary remained more or less intact. The research work was both historical and archæological. It is quite possible that the fruits of this work are even more important than the obviously valuable architectural restoration. Old sites were dug up, bricks and methods of laying them were analyzed, and foundations were thus dated. Finally the building began and this spring the town has been dedicated as an educational monument. Even the pavement is to suggest the meandering, dust-covered street of the old town. Shops and dwelling houses are restored, and the trunk highway is detoured around the town.

The traveler to Williamsburg today will find things more in the spirit of its past than will be his lot when he reaches Carcassonne. Williamsburg has been kept clean of the souvenir-shop atmosphere that mars but does not destroy the spell of that old fortified Languedocienne city or its sister, Mont St. Michel. Despite the great energy of Viollet-le-Duc, it is probably fair to say, too, that the Williamsburg restoration contains more true and scientific research than does that of Carcassonne. Americans may be proud of it, as indeed may Institute men, for many Technology architects participated.

If we are to do more restoration, we shall seldom be so fortunate as to find a site like Williamsburg. But Thomaston in Maine, Concord in Massachusetts, Old Newport, Charleston, Yorktown, parts of Dutch Staten Island — all offer similar possibilities. In all of these, there has, of course, been some restoration of individual houses.

Restorations of individual buildings are all right in themselves, but it takes restoration on the Williamsburg scale to accomplish true reproduction of the arts of the

past for the eyes of the future. Whether national or state government or further wealthy and generous men give of their funds, the work cries to be done. This country needs a restoration of the essential parts of St. Augustine, of New Orleans, of the pueblos, of Spanish California, of several towns along the Atlantic seaboard. Few can perhaps be as important as Williamsburg, but there is much other valuable work to be done. One restored village is worth more to posterity than a hundred stone obelisks carrying ever so many names of the present great and near-great. If we cannot have physical restorations of all of these, we can hope that the Historic Buildings Survey will record by drawings the salient features of our notable and historic structures.



*Buffalo's great inland port. In the distance is Lake Erie, at the right, flour elevators, and in the foreground, huge iron-ore unloaders*

*Galloway*

## *Substitutes for the Senses*

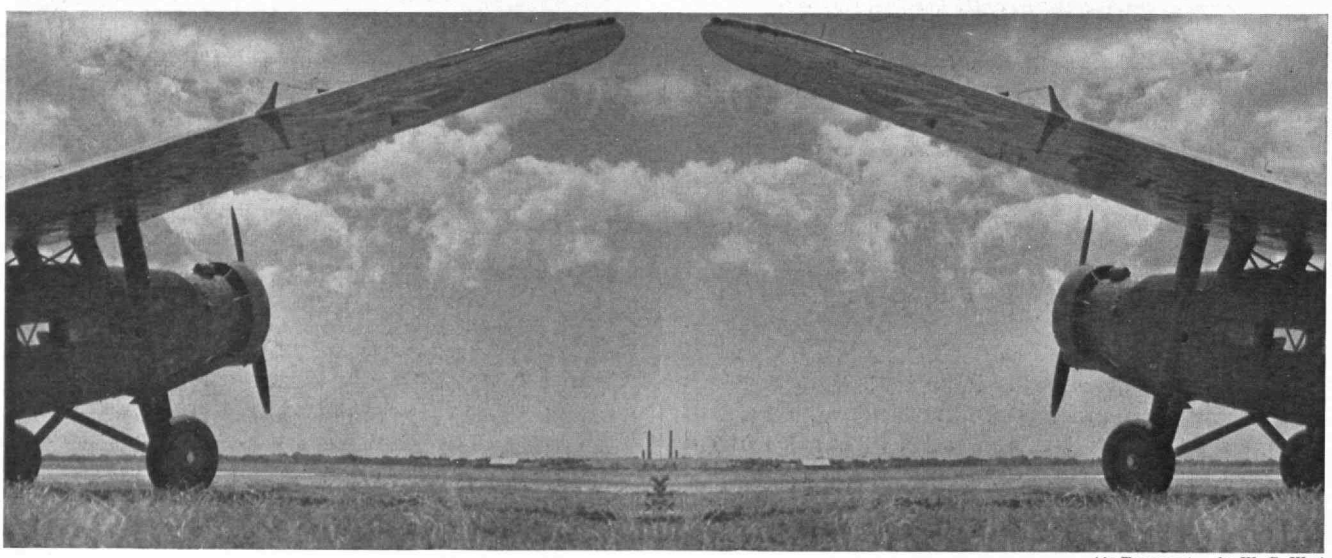
MAN'S senses of smell, taste, sight, and hearing may be of great importance to the individual, but their value as standards of measurement in research is discounted by scientists. While the nose still retains its prestige for both lay and technical smelling, taste, sight, and hearing lack the complete confidence of the laboratory worker. Nothing daunted, however, he has devised methods of assisting the nose to sniff accurately, and has made an electrical tongue, as well as equivalents of eyes and ears.

The business of investigating smells is not simply a matter of classifying odors by name or number as explained in The Review of February, but the development of a technique of smelling. The laboratory investigator is not interested in whether the scent of warm limburger is pleasant or revolting. Rather he wishes to know the technical classification of the odor, and he may record it as "caprylic," or give it a number in the scale of smells which range from sunkissed garbage to gardenias. Although the average nose is blissfully ignorant of the fact, the smell of freshly roasted coffee is technically known as empyreumatic, which suggests the highest heaven of perfumes. There are others.

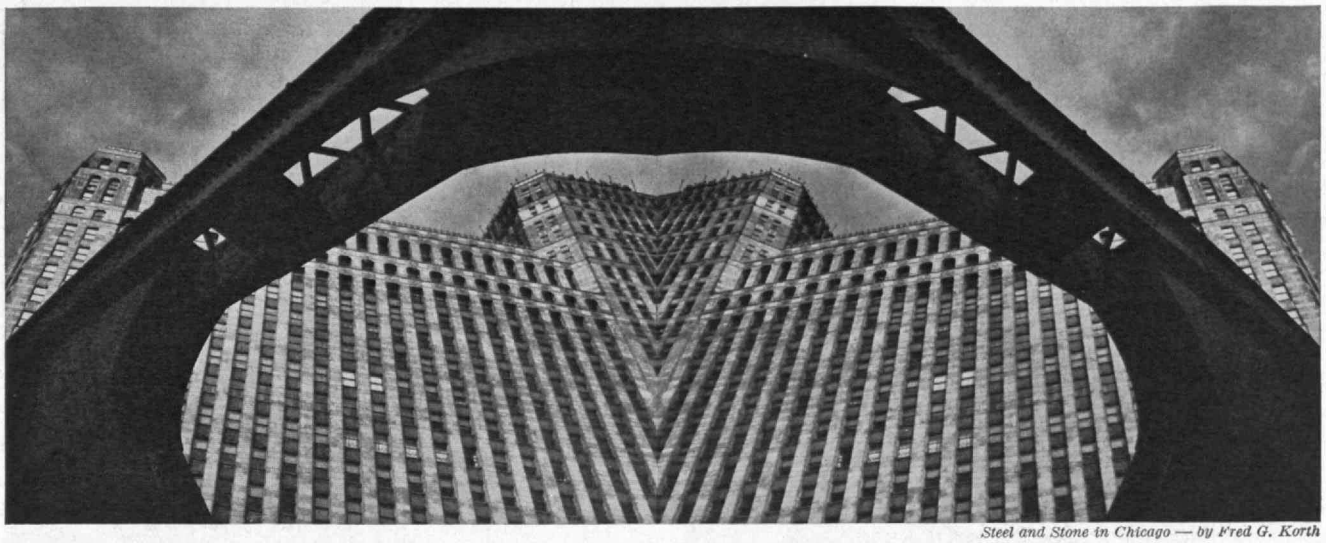
The smell of water is an important field of research. The faintest trace of certain substances gives water odors which make the fluid unpalatable or indicate unhygienic conditions. In such investigations the nose is supreme. Granted that a cold in the head, hay fever, or catarrh may temporarily cause irritating delays, nevertheless the olfactory nerve remains the best judge of smells.

The technical quality of odors in water include aromatic, cucumber, earthy, fishy, grassy, geranium, moldy, muskmelon, musty, nasturtium, peaty, pigpen, sweetish, vegetable, and violet. With a smelling knowledge of these odors, the nose is relied upon to determine whether a given smell is *very faint, faint, distinct, decided,* or *very strong.* The discovery of a new smell in this field may well be as sensational as the detection of a new form of radiation in the universe, and far more likely to affect the ultimate consumer.

The atoms or groups of atoms which carry odors have been given the name osmophores, and the methods of laboratory technique demand the most careful and painstaking work. The nose is aided in its detection of odors by little glass devices known as osmoscopes. Some of these are glass tubes with an enlarged opening to fit the shape of the nose, while another type has individual glass tubes leading to the nostrils. And there are other laboratory devices which aid in capturing the elusive smell, the very faintest taint, and bringing it to the nose.



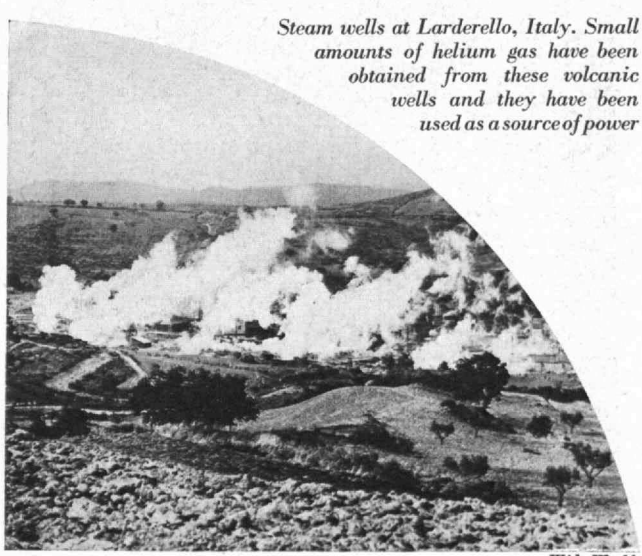
*Air Transport — by W. C. West*



*Steel and Stone in Chicago — by Fred G. Korth*

Because of the danger of tasting waters of unknown quality, research workers hesitate to apply this method in their studies. They are also aware that the senses of taste and smell are so closely allied that one may be mistaken for the other. Recently, however, an electric tongue, the Electrynx, has been developed and may prove of great value in studies of water supplies. For the moment it is being used to determine acidity in fruit juices and in the blood. Because convention forbids critical tasting, the tentative sipping of soup or private research on croquettes, a vest-pocket tongue, small enough to be used without detection at a dinner would supplement the natural facilities of the gourmet. Possibly the fine art of tea tasting which has kept men sipping at cups the day long will disappear in the face of an army of tiny electric tongues to dart in and out of steaming cups with not a thought of a burned tip.

Science has not been able to reproduce so wonderful a mechanism as the human eye, but it has in effect given the eye a new range through various devices of great importance. The photoelectric cell has become the eye of modern science and its applications for useful purposes are almost limitless. In apparatus recently developed by Dr. V. K. Zworykin of the RCA Victor Company, a photocell is used with other devices in a new eye which, like the human organ of sight, continues to see for a brief fraction of time after the light producing the image has been removed. The device is an improvement upon the human eye in that it has the ability to store by means of electricity the image it has seen and to reproduce this stored information when desired. Originally developed in research on television, Dr. Zworykin's electric eye may have other uses, particularly in biology and astronomy.



*Steam wells at Larderello, Italy. Small amounts of helium gas have been obtained from these volcanic wells and they have been used as a source of power*

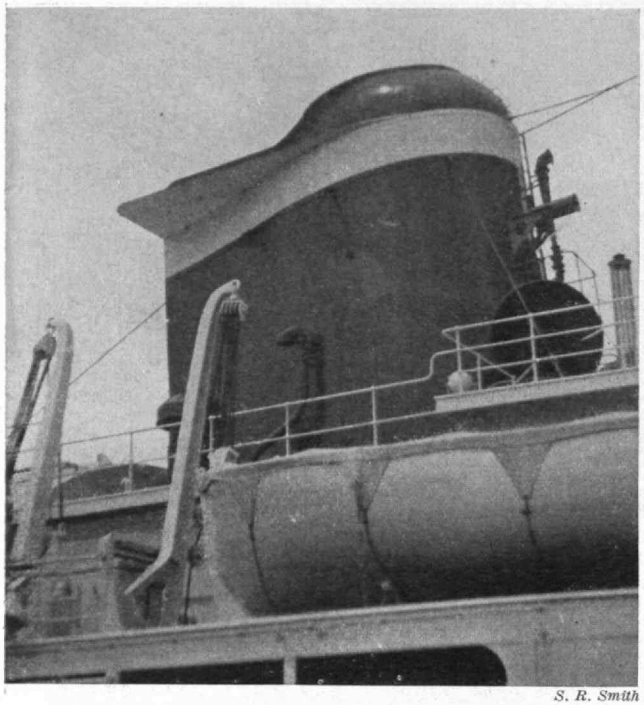
*Wide World*

Where human sight has been destroyed, science has been able to provide substitutes to aid the blind to "see" by other means. The first "talking book" is soon to be released by the Library of Congress. These books are being recorded by carefully selected readers on specially designed phonograph records which are to reproduce the voice electrically. They are to be distributed from libraries in various sections of the country. Still another device, the Optophone, which was recently announced in England, transforms the printed words into musical tones. The transformation is carried out by means of a delicately perforated whirling disk which transmits light from the text, one letter at a time, to a selenium cell. The use of this device, however, is limited to the blind who have learned the alphabet of musical tones registered by the light-sensitive cell.

A Frenchman has designed a machine which employs a number of selenium cells to control the vertical motion of a series of slender rods, the tops of which operate through holes in a plate. Actuated by magnets controlled by the cells, the ends of the rods project slightly above the surface of the plate in various combinations, reproducing in relief the form of each letter in the alphabet. The sensitive finger tips of the blind, resting on the plate, quickly give the reader a mental image.

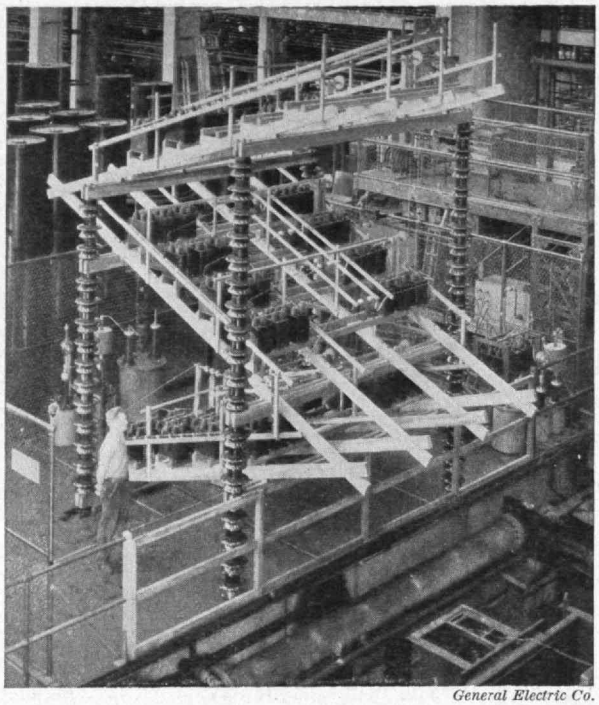
The Visagraph, which was developed several years ago by Robert E. Naumburg, '16, also makes it possible for the blind to read by touch. It, too, employs a scanning device and photoelectric cells. Originally designed to form one letter at a time in relief, the machine has recently been improved and now prints words as units.

The versatile electric eye has been put to innumerable industrial uses undreamed of when it was first developed. It can be made to recognize color and control the spacing



S. R. Smith

*Stream-lined funnel of Grace Line ship* Santa Elena



General Electric Co.

*2,000,000-volt lightning generator for commercial testing of power transformers*

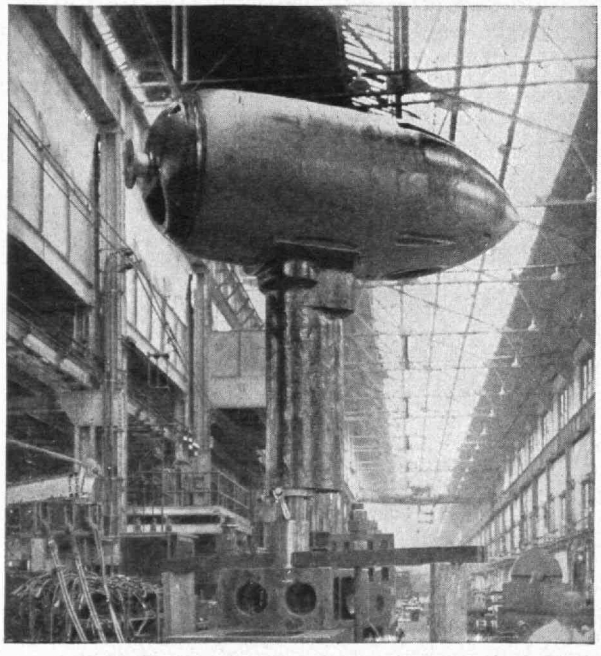
of wrapping papers on which the position of the design is important. In the determination of translucency in papers which are to be printed on both sides, the electric eye, working under the name of transometer, makes its selections with unerring accuracy. On package-filling machinery the eye that never tires brooks no heavy hand in its scrutiny of the pointer on the scales to assure accurate weight. It can be made to turn lights on and off, to count open doors, and as a guard for buildings, it will keep a sleepless vigil and sound an alarm if an intruder enters or a fire starts.

The infrared sensitive plates developed in recent years, making possible photography of objects hidden from human vision by fog or haze, are a most important extension of sight. And in this field of great promise for the future are the super-microscopes and the great astronomical telescopes which have made possible modern knowledge of the nature of the universe.

The ear has been aided and its range extended by scientific devices which include various types of microphones, instruments to help the deaf to hear, and the sound recording methods which have opened new prospects in the motion picture industry. The Bell Telephone Laboratories have developed a thin ribbon of steel upon which the human voice may be "parked" for subsequent reproduction. This device can be made to record a telephone message in the absence of a human auditor.

Another recent study in the field of sound concerns the tones produced by good and bad violins. Using a cathode ray oscillograph, Professor R. B. Abbott and Mr. T. H. Stevens of Purdue University have obtained exact pictures of these tones. By analyzing the pictures mathematically, they have found that the tone color of the instrument depends entirely upon the varying number and proportion of the overtones or other incidental tones which accompany the fundamental note played by the violinist. The response, or carrying power of the instrument turns out to be merely its mechanical efficiency in converting the vibrations of its strings into sound waves. The most mysterious of the arts thus yields to exact scientific measurement.

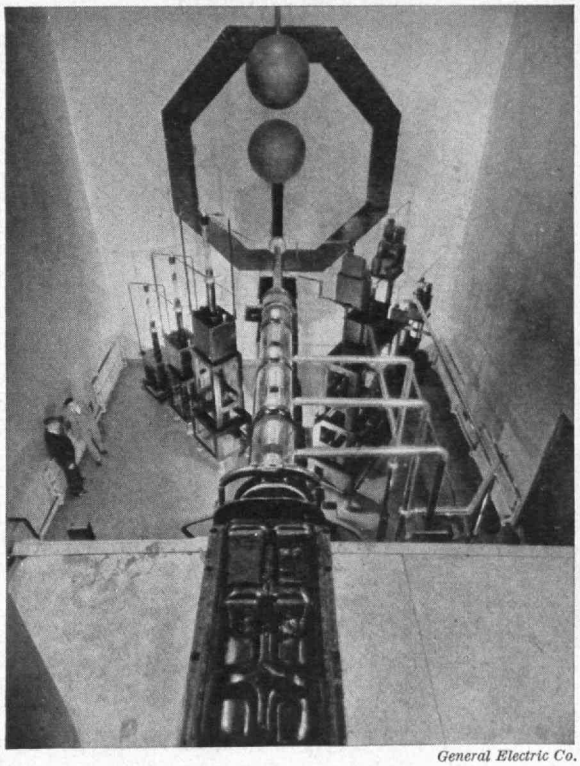
And for the super-sensitive electrical ears of the future there remains a new world of inaudible sounds, the faint whisperings, voices perhaps, and mechanical noises that have never been heard by man.



*200-horsepower, 3600-rpm. induction motor for testing airplane propellers at Langley Field*

## *Ohms and Ohms and Ohms*

PALLIATION of the ever-present thirst for technological advancement becomes more and more a matter of what the electrical industries can bring forth. When one takes notice that a colossus of cranes, an affair to sling 50-ton guns about in half-dozen lots, is provided for a navy yard on Puget Sound; or that a mine skip is hoisting seven-ton loads of copper ore up a shaft three miles above sea level in the Andes at a rate of 400 feet per minute faster than the fastest office-building elevator in New York; or that a contract is let for generators at Boulder Dam some seven per cent more powerful than the present world's largest at Dnieprostroy; or that the elevated railways in Brooklyn are building an aluminum, 60-mile-an-hour, articulated car of five sections mounted on six trucks and capable



General Electric Co.

*800,000-volt x-ray unit at Mercy Hospital, Institute of Radiation Therapy, Chicago. The most powerful x-ray tube and machine ever put to practical use, its radiation is equivalent to that of $75,000,000 worth of radium*

of seating 184 persons and *standing 490 more;* or that sheets of glass four feet square are deftly handled to be hardened by heat treatment; or that a few of the 616,000,000 light bulbs estimated to have been sold during 1933 contained sodium vapor and probably will be used to make highways safer, ultimately rendering unnecessary the blinding headlight; or that enginemen on freight trains may talk with co-workers aboard the caboose and expect reasonably courteous answers; or that in a Chicago hospital there is a 14-foot, 800,000-volt x-ray tube which can do the work of $75,000,000 worth of radium — then one may be sure he is scanning a few of the high spots in a listing of what it has been possible to complete or undertake during the past twelvemonth because of the help rendered by electrical engineers, research workers, and their colleagues.

Such a list of achievement might be extended seemingly indefinitely. There is the *Sainte Genevieve*, a self-propelled pipe-line dredge with a cutter driven by a 225-horse power motor and the pump driven by one of 1,200 horse power; the *Washington*, sister of the *Manhattan*, which, aside from propulsion machinery, is operated electrically from anchor windlass to rudder; the record-breaking, single-shaft, 1,800-rpm turbine generator (rated at 165,000 kw) under construction at Philadelphia; the radio modulator at Mason, Ohio, for which 70,000,000,000,000,000 represents the degree of power amplification; the 2,000-watt "Movieflood" lamp photographically equal to five or six ordinary 1,000-watt lamps. Also we now have light-weight fans using a quarter as much power as older types but circulating more air; greatly perfected air-conditioning devices for homes, offices, and railway cars; and windows of soap-bubble thickness to permit the easy passage of ultraviolet light from bulbs of normal thickness.

Many, in fact most, of the items noted are susceptible to expansion. The Philadelphia turbine generator, for example, has a rotor (32 feet in diameter) the steel plates and forgings of which are held together by massive bolts. One of these (13 inches in diameter) exerts a clamping pressure of 9,000,000 pounds which makes it, according to the manufacturer's claim, the largest high-strength bolt ever made. Boulder Dam, besides awaiting the most powerful generators ever to be driven by a waterwheel, expects eight valves (also world's largest) which will require more than eight miles of linear weld, and penstocks (also world's largest) in which the fusion welds will add up to 75 miles. These penstock sections (also world's largest) range from eight and a half feet to 30 feet in diameter with a maximum thickness of three inches and their welds will be verified by a 300,000-volt Coolidge tube, high-tension transformer, Kenotron tubes, and condensers, all completely insulated by being immersed in oil and sealed within a grounded container.

Moreover, the part which the electrical industries are coming to occupy in transportation is decidedly worthy of more than any mere casual mention of a Brooklyn elevated car. Steam road electrification is instanced by the completion of the change-over of the Pennsylvania between New York to Wilmington and work on its further extension toward Washington. Meanwhile, progress abroad, using some American equipment, is to be noted on the Polish, Dutch, and Belgian State Railways, and on the Southern in England. Particularly blessed with notice in the public prints this past winter have been the streamlined trains built for sustained high-speed operation by the Union Pacific, Burlington, and Texas and Pacific. These articulated, air-conditioned units are gas-electric driven. It is quite probable that Diesel-electric and gas-electric cars will continue to displace many steam locomotives on branch lines and for other light-traffic conditions.

The trolley car, however, seems to be the great future hope of many of the electrical industries. The present phase of street railways is largely one of rehabilitation, some addition of modern equipment, and expanded use

*Structural Engineering — a montage by Rittase*

of the trackless trolley coach. Examples of this phase are to be found in Indianapolis, Minneapolis, Columbus, and Dayton and on the interurban service of the Fonda, Johnstown, and Gloversville, where new light-weight cars have shown an increase in net revenue to nearly 75% over previous operation with heavier equipment. But the trolly car of tomorrow is probably to be something rather different than what we now have, for the members of the Electric Railway Presidents' Conference Committee "have just completed exhaustive tests to find out just what the street car of the future must be — and their specifications are exacting. Briefly, this new car must compare with the best of modern automobiles as to comfort, quietness, ease of control, speed, acceleration, and braking. The electrical equipment for such a street car has been built. . . ."

## *Collectanea*

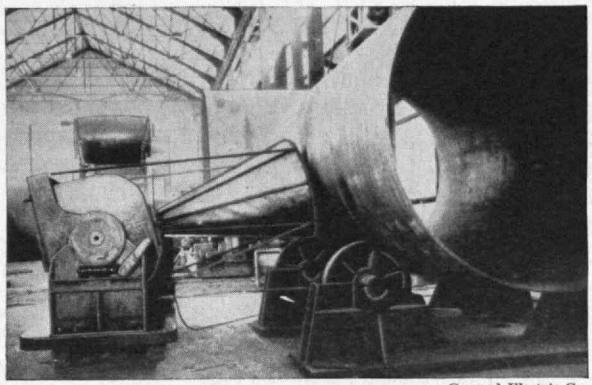
¶ Virginia, where gold was first found in this country, is again attracting gold seekers. The Rapidan Gold Corporation has started gold operations at the old Melville mine near Fredericksburg. If successful, the venture will doubtless spawn workings in other parts of the Appalachian chain, notably North Carolina.

¶ After years of delay and controversy, work has really started on the Union Passenger Terminal (price $9,000,000) at Los Angeles. It will be used jointly by the Union Pacific, Southern Pacific, and Santa Fe Railroads.

¶ Rodriguez Dam on the Tijuana River in Mexico, highest buttress-type dam in the world, is about 70% completed.

¶ Seven hundred air-cooled or air-conditioned cars are being installed by railroads this year. At the close of 1933 there were 648 such cars in operation.

¶ In England electrically heated wallpaper has appeared. Made of fine copper-nickel wire, its resistance is such that house current will raise its temperature to as much as 85° F. if desired. It is a variant of radiant heating, well-known in England.



General Electric Co.

*300,000-volt industrial x-ray unit for inspecting more than 75 miles of fusion welds of the penstocks for Boulder Dam. This apparatus is capable of producing radiographs of steel plate up to four inches in thickness*

¶ A century ago the first wire rope was made and used. Julius August Albert, mine inspector of Hannover, introduced it to Germany in 1834. Seven years later John A. Roebling turned out the first wire rope in America. Today America's annual production totals 165,000 tons.

¶ Construction is well under way on the $31,000,000 Bonneville Dam, locks, and power plant on the Columbia River. Six 60,000-horse power turbines are to be installed. Preliminary work is proceeding on the Grand Coulee Dam (also on the Columbia) which is to cost $63,000,000 and to produce 700,000 horse power.

## *Steel for Wood*

A REVIVAL in British shipbuilding reveals a definite trend toward steel in parts of ships for which wood has long been the accepted material. Lighter and stronger corrosion-resisting steel plate, the result of metallurgical progress in recent years, is encouraging shipbuilders to make a wider use of steel for decks, hatches and hatch covers, derrick booms, boats, bulkheads, cabin partitions, furniture, and other fittings.

Although economic considerations have been important factors, the trend to steel is due in no small part, authorities believe, to recent fires on passenger liners, and the growing conviction that the danger of fire, or at least the spread of a fire, can be minimized by all-steel construction. The utility of steel for hatches and hatch covers is indicated by the damage caused when wooden hatches are carried away or smashed in heavy weather. Stainless steel is also being used in many places where brass alone once was supreme.

With the revival of the shipbuilding industry in England, engineers have noted other marked improvements in methods of construction. The efficiency of boilers and engines has been much improved, and the carrying capacity in relation to space used for propelling machinery and bunkers has been increased. Consumption of fuel in relation to speed and cargo space also has been improved, and more efficient methods of loading and discharging cargo promise new economies.

In the editorial opinion of the British technical journal, *Engineering*, "the day of 30- and 40-year-old ships is past. The modern ship is so much more easy and cheap to operate that owners will be obliged to get rid of old vessels and make the necessary replacements."

Meantime, construction of the super Cunarder, which was suspended for two years, is to be resumed on the banks of the Clyde, and there are indications that a sister ship may soon begin to take form on the Tyne. The beginning of this year saw 20% of British building berths occupied as compared with but five per cent at one time in 1932.

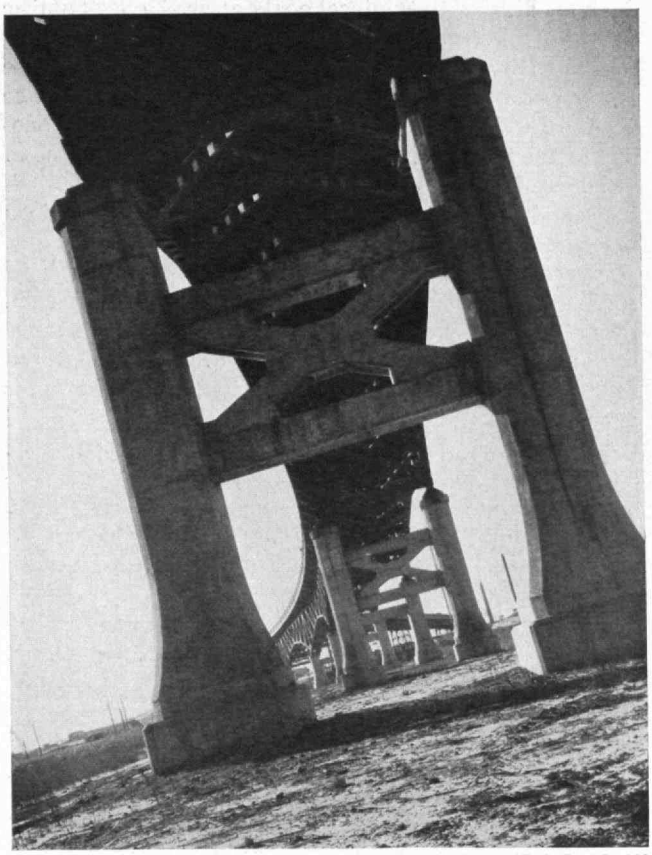
## *Force Required to Propel Your Car*

By John W. Lane

IN THESE days when airflow, aerodyne, streamline, air resistance, and kindred words are on the tongues of automobile salesmen and in the minds of buyers, it is interesting to know that the layman has at his disposal a simple way of finding out how much force is actually required to propel his car at any given speed. He may determine himself, without elaborate equipment, comparative air resistances of cars.

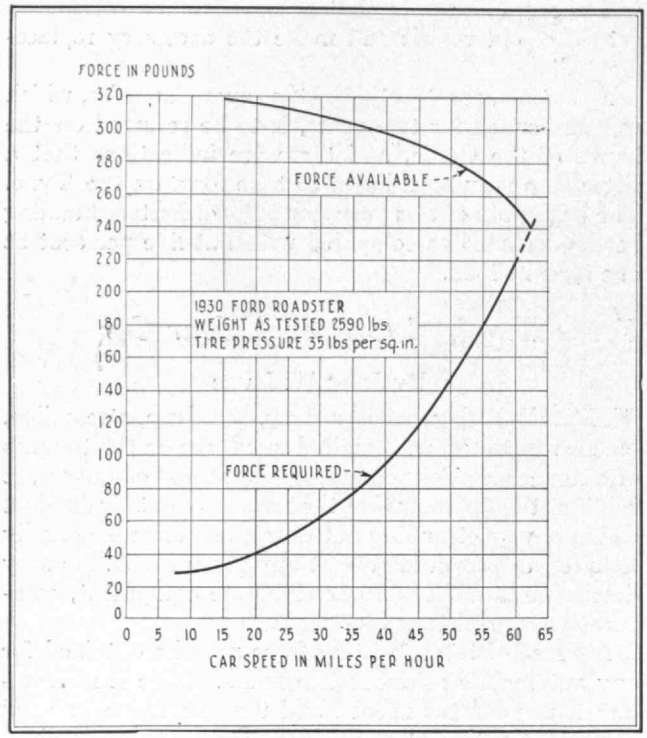
A curve of total resisting force may be obtained for any automobile in about two hours. There is no complicated apparatus needed and the results are in good agreement with checks made on expensive equipment. In fact, there is reason to believe that these results may be more accurate, if the work is carefully undertaken, than wind tunnel tests of models.

In order to determine the total resistance, it is first necessary to obtain the car weight. This is very easily



F. S. Lincoln, '22

*Portion of the great high-level viaduct across the Jersey meadows*




*Automobile resistance force curve obtained by method described adjacently. The engine power curve for the same car is also plotted ("Force Available") and it is interesting to observe that the intersection of the two curves is at about 62 miles per hour, which checks closely with the actual top speed of the car*

done by driving to the local coal dealer. A check on the accuracy of his scales may be obtained by weighing the car with and without one passenger and checking the increment with the known weight of the person. Since the total weight is dependent upon the amount of gasoline in the tank, it is well to observe this at the time of weighing.

Second, the tire pressure must be checked, for inflation pressures have a marked influence on rolling resistance.

The car is then driven to an approximately level road. The accuracy of the speedometer may be checked by noting the time required to cover a given distance at an indicated speedometer speed. The "measured mile" which is found on many of the new highways is very convenient for this purpose.

The total resistance tests are now run by bringing the car up to any given speed as indicated by the speedometer, then releasing the clutch and observing the time required to decelerate through a given decrement, say five miles per hour. That is, obtain an even car speed (for example, 40 miles per hour), disengage the clutch and with a watch obtain the number of seconds required for the speedometer to register from 40 m.p.h. to 30 m.p.h. and so on through the entire range to be investigated. These deceleration times may then be used to compute the deceleration of the automobile. Suppose it takes N seconds to decelerate from 40 m.p.h. to 35 m.p.h. or any other decrement of 5 m.p.h., then the deceleration in feet/sec$^2$ is $\frac{88}{12 \times N}$ or $\frac{7.33}{N}$. If W is equal to the car weight in pounds as tested, the decelerating force is $F = \frac{W}{g}a$ or $F = \frac{W}{32.2} \times \frac{7.33}{N}$ or $F = .2276\frac{W}{N}$. Therefore if we weigh the car and measure the time as indicated above, we may find the force F and consider it as acting at the average speed of each run. That is, for the run from 40 m.p.h. to 35 m.p.h., consider the speed as 37.5 m.p.h. The moment of inertia of the wheels may be estimated. The effect of the rotating wheels, however, is about the same as adding two or three per cent to the total weight W. These values of resisting force may be plotted for both directions and an average curve drawn between them with the result shown adjacently by the curve labeled "Force Required."

If we are to compare two cars for total resistance, we must have similar conditions, not run one car with the windows open and another with the windows closed, or one car with the radiator shutters shut and another with the radiator shutters open. However, if we wish to ascertain the effect of such differences or the effect of fender wells vs. rear tire mounting on a car, that may easily be done.

It is well to consider what force is actually measured in this way. This force, designated as the total resistance, is composed of three main parts:

1. Air resistance.
2. Rolling resistance of all four tires.
3. Mechanical friction.
   (a) Differential frictional resistance
   (b) Transmission resistance
   (c) Front spindle resistance
   (d) Rear axle resistance
   (e) Clutch throw out bearing
   (f) Speedometer drive friction
   (g) Universal joint friction
   (h) Drive shaft friction

It is essential that the brakes be free, otherwise the friction loss in them, which might be large, will also be measured. Most of the transmission resistance and all of the clutch release bearing friction may be eliminated from the resisting force if the gear shift lever be put in neutral instead of releasing the clutch when making the tests. The first two are, of course, the largest with the air resistance forming the major part as the speed increases into the driving range. At very low speeds the rolling resistance constitutes the greater part of the total resistance. A check of the rolling resistance can be obtained by noting the force required to pull the car by hand very slowly. This can be done by hooking a spring balance to the front bumper and pulling, or by using a spring scale and pushing the car. The close agreement between the value of about 29 pounds as read from the curve and the measured force of 32 pounds gives evidence of satisfactory precision.

Further interesting information about engine friction may be obtained by timing deceleration with the engine not disconnected from the drive. The moment of inertia of the reciprocating and rotating engine parts then acquires considerable importance and must be considered.

From the plotted force curve, the values of the horse power being used to propel the car may readily be calculated from the expression:

$$\text{H.P.} = \frac{\text{Force} \times \text{m.p.h.}}{550} \times \frac{88}{60} = .002667\ F \times \text{m.p.h.}$$

# One Billion Barrels

## *Notes on America's Second Largest Productive Industry*

By H. T. Mann

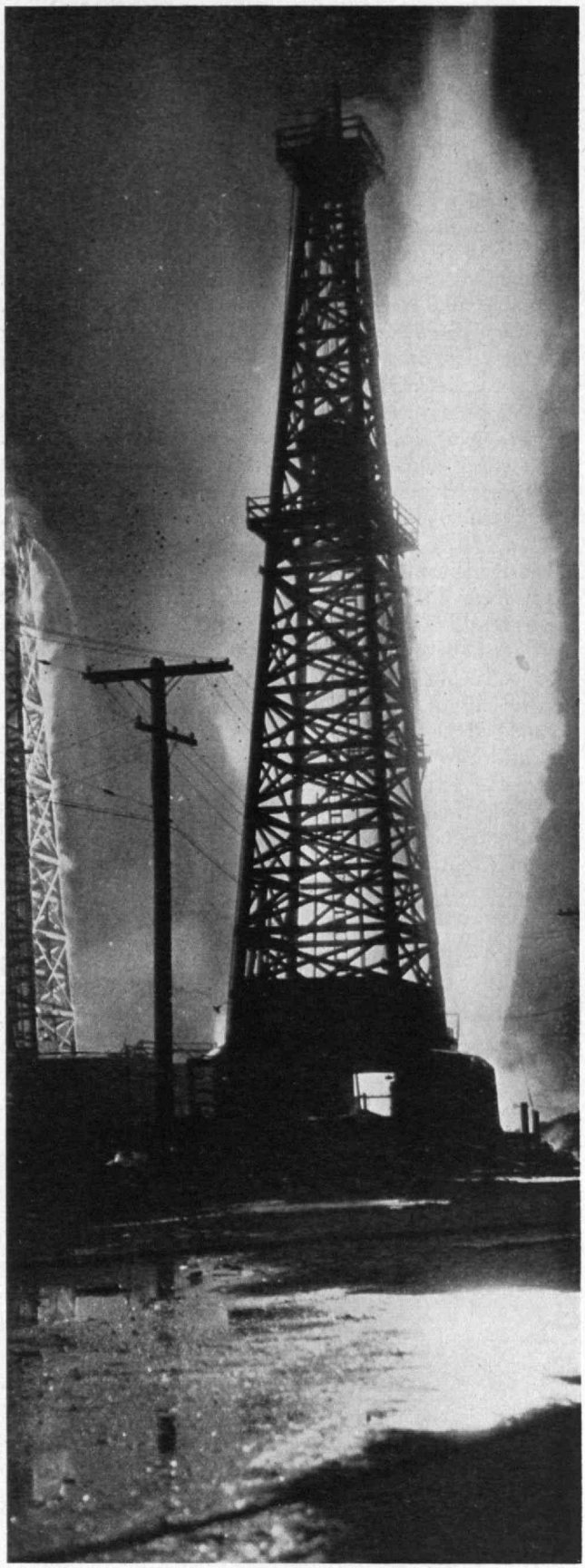
FROM the dawn of history to the present time men have searched the face of the earth for treasures as a means of quickly attaining great wealth. Dangers, privations, and hardships have been of secondary importance in the consideration of this desire to obtain wealth quickly. Some have hunted for precious stones; some have sought for gold and silver; and others have searched for things of lesser unit value, as copper, iron, and coal which could be found in greater quantities.

In North America this search for wealth started almost with the landing of Columbus. The search was actively and successfully carried on for 150 years by the Spaniards and others who followed Columbus to this country. As time went on new discoveries were made, many of which caused great rushes to the new source of wealth, notable among which were the gold rushes to California in 1849, to Alaska in 1897 and those for silver to the Comstock in 1859, and Leadville in 1877.

The great rushes to the oil fields, while exceeding in magnitude many of the stampedes for the precious metals, are not so generally known. It had been known for 100 years that there was oil in Pennsylvania but the first great stampede to the district was occasioned by the discovery that petroleum could be obtained from wells. It was in the summer of 1859 that the first well drilled for petroleum in the United States found oil at a depth of 69 feet. This, the Drake well, situated a short distance from Titusville, Pa., produced 25 barrels a day, and the daily output was worth $500. A mad rush for the Western Pennsylvania region began. Towns sprang up as if by magic, and in a few months had grown to small cities of wood and canvas. Land values soared to fabulous prices and wells were started everywhere.

This, the first rush to the petroleum fields, has been followed by many others at intervals even during recent years. Two recent examples will illustrate this. The Seminole Field in Oklahoma was discovered in 1926, the discovery well producing 7,000 barrels of oil per day. Eighteen months later $150,000,000 had been spent for the development of this field and it had produced 150 million barrels of oil. The East Texas field was discovered in 1930 and during the next three years 12,000 wells, equal to 8,300 miles of hole, were drilled in this field with a total drilling cost of $65,000,000. For a short period of time this field could have supplied the entire world with its oil.

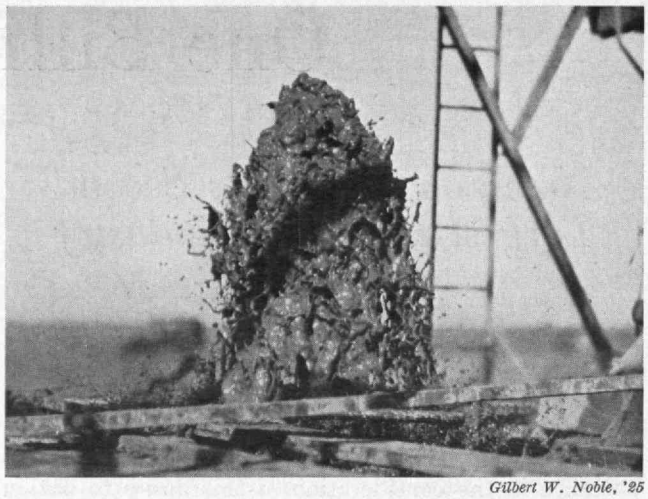
What was the incentive that drew men to these fields? Ever the optimistic hope of great wealth quickly attained. The first great stampede to Western Pennsylvania, following the discovery of oil in the Drake well, was due to a combination of facts and fancies. At that



*Oil well fire — Galloway*

time the price of illuminating oil was $1.00 per gallon and the supply was inadequate even at this high price. It was known that a good illuminating oil could be obtained from petroleum by a simple distillation. The oil from Drake well proved that petroleum could be obtained from wells. In their imaginations there were no limits to the number of wells a person could drill. Simple arithmetic applied to the preceding indicated quick wealth, and thousands of men, fired by this dream, rushed to the region. During later years it may have been the hope of striking a big well such as the Lake View gusher in California. This well is credited with having produced over nine million barrels of oil in 19 months; or it may have been one of 50 or more wells which have produced from one million to six million barrels of oil. Regardless of the motivating influence, every new discovery of a big well is followed by a rush to that new discovery and if land can be secured, by a rapid prospecting of the area.

In the early days of the petroleum industry men sought for oil springs or "seeps" and drilled near these. Later there came a period during which well locations were selected on little more than "hunches." There were many hunches, such as directional trends, creekology, and so on. One well was drilled in Central Missouri because the location selected was on a line drawn from the Illinois oil fields to the Oklahoma fields. As time went on and failures increased, geologists were called on for their help and guidance. At the present time the industry is using both geology and geophysics, rather than hunches, in its search for oil. Yet with all of our science I do not believe that today there is any method by which we can locate oil under complicated conditions. About all we can do is to indicate the more likely locations for wells and then wait for the drill to determine the presence or absence of oil under this location. Even with the best of scientific aid available, the likelihood of finding petroleum in undeveloped or wildcat territory is small, not over one well in 15 encountering oil in paying quantities. During the year 1933 there were 623 wildcat wells drilled in Texas and only 39 discoveries were made. This is one discovery from 16 tests. The average for the United States has been one discovery out of 24 attempts. In developed territory the story is different but even in these developed areas dry wells are common, and of all the wells drilled in the United States, about 835,000 in number, over 20 per cent have been dry; and by "dry" I mean that they did not produce oil or gas.

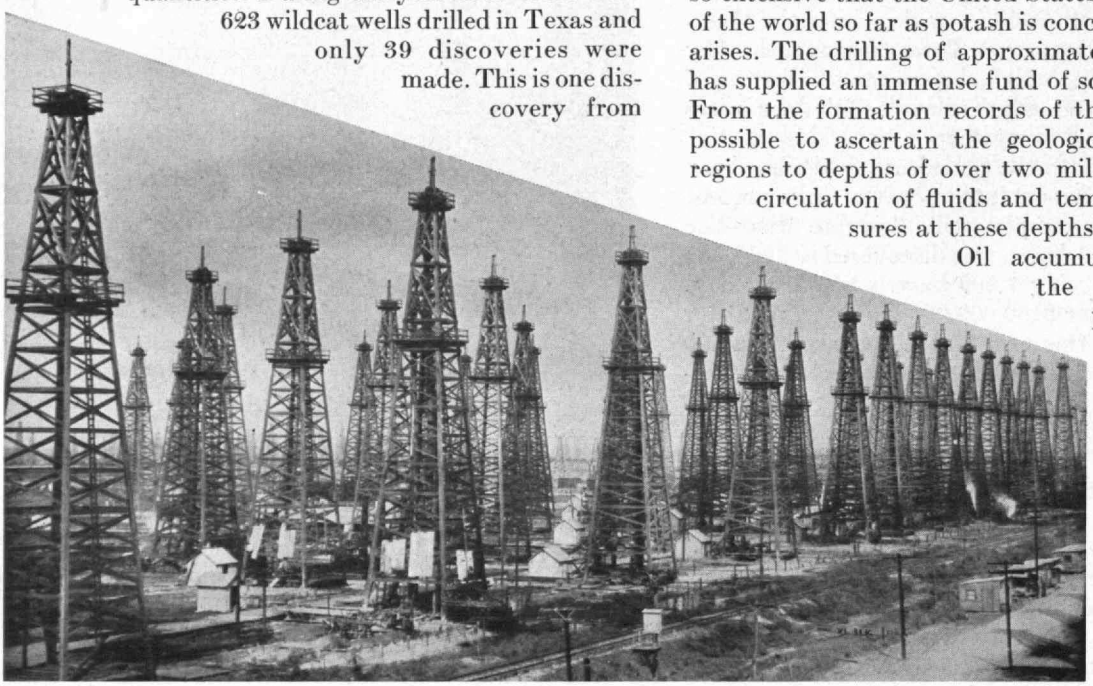


Gilbert W. Noble, '25

*First head of mud as an oil well blows in*

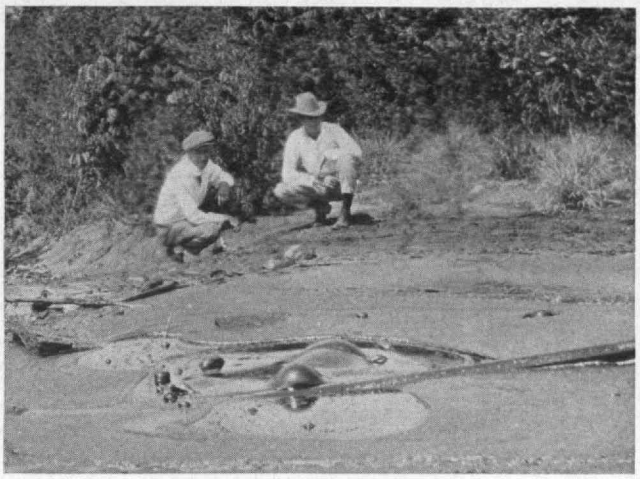
Sometimes in drilling for oil we encounter something else which may have value. In drilling for oil on the Gulf Coast of Texas and Louisiana, sulphur was found. At the present time the sulphur obtained from these deposits supplies most of North America's requirements. In Oklahoma salt water encountered in oil wells is being evaporated and the salts and chemicals obtained are marketed. In Colorado, Utah, and Wyoming carbon dioxide, $CO_2$, was found in large volume and this gas is now a source of "dry ice." Drilling for oil in Western Texas and Eastern New Mexico, if not actually discovering the potash deposits of this region, at least hastened their development. These potash deposits are so extensive that the United States can be independent of the world so far as potash is concerned if the occasion arises. The drilling of approximately 800,000 oil wells has supplied an immense fund of scientific information. From the formation records of the wells it has been possible to ascertain the geological structure of the regions to depths of over two miles, the underground circulation of fluids and temperatures and pressures at these depths.

Oil accumulates in "pools" in the rocks. If water is present, and it



*Wells of Black Gold in Beaumont Field, Texas*

Galloway



*Natural oil spring at Ceero Azul, Mexico*

usually is, the oil will be on top or above the water; if water is not present, the oil will collect in the low places, in all cases the accumulation following well-known physical laws. The reservoir in which the oil collects is usually a porous rock, the more common reservoir rocks being sandstones and limestones. The sandstones contain pore spaces equivalent to 10% to 30% of their volume. The limestones have an extremely variable and indefinite porosity. It is rather surprising how dense a stone may appear and yet hold sufficient oil to make a commercial well. Sandstone from quarries located on the outcrops of some of the oil formations of Oklahoma have been used for building stone. This sandstone from a well at Oklahoma City, Okla., yielded up to 40,000 barrels of oil per day from one well.

Oil is obtained from the earth by sinking or excavating a hole down to the oil reservoir and then extracting the oil. In the United States the preference has always been to drill a well of small diameter into the oil-bearing rocks. We prefer that the hole in the producing formation be about eight inches in diameter. Some are larger, many are smaller. We have used two general methods of drilling, the percussion or cable tool method, and the rotary. In the percussion method the drill, weighing from one to two tons, is suspended in the well by a rope. The drill is raised and dropped, the blow cutting or crushing the rock. The cuttings produced by the drill are mixed with water and when they have accumulated to a sufficient amount the drill is hoisted from the well and the cuttings removed by a bucket. This is called bailing out. This cycle of drilling and bailing is repeated until the desired depth is reached.

In the rotary method the bit is attached to a pipe extending from the bottom of the well to the surface. This pipe is rotated and in turn rotates the bit. Through this pipe a fluid is constantly pumped to the bottom of the well. This fluid, returning in the annular space between the wall of the well and the pipe, carries the cuttings to the surface. The composition of this liquid may be anything from pure water to mud as thick as the pumps will handle.

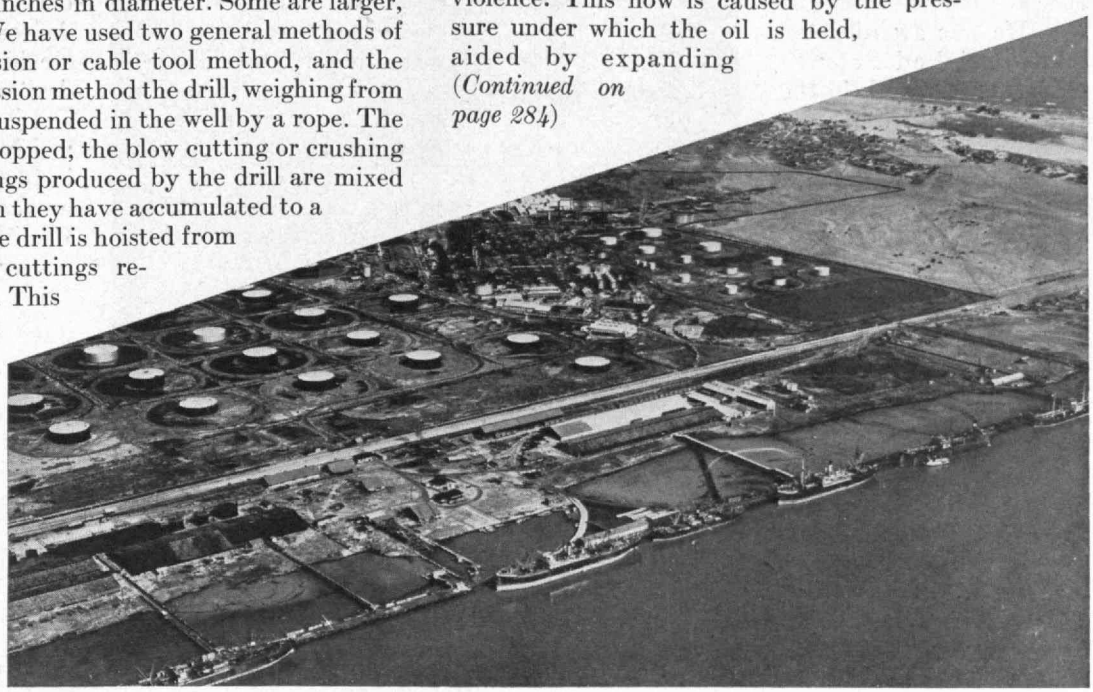
The rotary method is rapidly gaining in popularity, especially in areas where the ground tends to cave or where high pressures are encountered. This popularity has to a great measure been due to the splendid work of the metallurgists. One example, from many available, will illustrate this. A few years ago a fish tail bit would drill only 100 to 150 feet without sharpening. Today bits of the above type are reported to have drilled 1100 feet without sharpening.

In rotary drilling crooked holes are frequent. Wells with a horizontal deviation or drift from the vertical of 10% are not uncommon. In learning to prevent this deviation it was found that the direction of the hole could be controlled. Advantage is now taken of this direction control to drill two or more wells from one location or to drill at an angle from the vertical.

At some stage in the drilling of a well it becomes necessary to place a lining in it. This lining is to support the walls of the well if necessary; to keep outside material such as cavings and water out of the well, and to keep the oil and gas in the well. For this lining we use iron or steel pipe and a single deep well may use as much as 250,000 pounds of pipe. In modern practice a portion of the space between the wall of the well and the pipe is filled with Portland cement, as much as 1500 sacks being used. This cement is forced from the bottom of the pipe.

When the well is completed, if it is a producer, oil will begin to flow from the well with more or less violence. This flow is caused by the pressure under which the oil is held, aided by expanding

(*Continued on page 284*)



*Aguila Oil Refinery, Tampico, Mexico*

*Jones*

# THE INSTITUTE GAZETTE

PREPARED IN COLLABORATION WITH THE TECHNOLOGY NEWS SERVICE

## *New Corporation Life Members*

THE election of Dr. Frank B. Jewett, '03, Vice-President of the American Telephone and Telegraph Company, and Lammot du Pont, '01, President of E. I. du Pont de Nemours and Company, to Life Membership on the Corporation of the Institute was announced by President Compton following a meeting of the Corporation on March 7. Dr. Jewett and Mr. du Pont have served as Term Members (*see opposite page*) of the Corporation, their terms ending last June.

In the dual capacity of Vice-President of the American Telephone and Telegraph Company and President of the Bell Telephone Laboratories, Inc., Dr. Jewett directs the scientific research and development of these organizations. He was educated at the Throop Polytechnic Institute, the University of Chicago, and Technology, where from 1902 to 1904 he was a graduate student and Instructor in physics and electrical engineering. After completing his studies here, Dr. Jewett entered the American Telephone and Telegraph Company as a transmission engineer. He was promoted to various positions of executive responsibility, and in 1925 assumed his present administrative duties.

During the World War, he served as Lieutenant Colonel in the Signal Corps, an advisory member of the Special Submarine Board of the Navy, and a member of the State Department Special Committee on Cables. He was awarded the Distinguished Service Medal for his work in the development of the radio telephone and other technical apparatus for the Army.

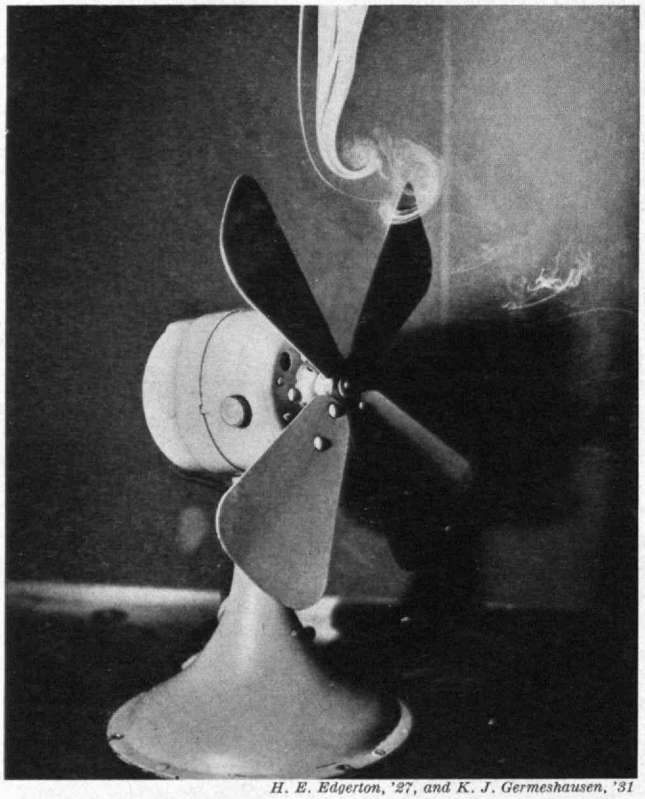
Dr. Jewett has served as a trustee of the Engineering Foundation, and as Chairman of the division of engineering and industrial research of the National Research Council. He is a Fellow and past President of the American Institute of Electrical Engineers, a Fellow of the American Physical Society, the Institute of Radio Engineers, the American Academy of Arts and Sciences, the American Association for the Advancement of Science, and the Acoustical Society of America.

He is also a member of the National Academy of Sciences, the Institution of Electrical Engineers of England, the Society for the Promotion of Engineering Education, and the Science Advisory Board appointed by President Roosevelt, serving in the latter group as Chairman of its committee on railway research. He is affiliated with many other committees and organizations, including the Carnegie Institution of Washington. He is Director of the National Advisory Council on Radio in Education, and his interest in civic affairs is indicated by the fact that he is President of the board of education of Millburn Township, in which his home at Short Hills, N. J., is located.

Dr. Jewett is a member of Sigma Xi, Delta Upsilon, Tau Beta Pi, and numerous clubs. He has been the recipient of honorary degrees from New York University, Dartmouth College, Columbia University, the University of Wisconsin, Rutgers University, the University of Chicago, the Case School of Applied Science, and Miami University.

He is a winner of the Edison medal, and Japan has conferred upon him the Fourth Order of the Rising Sun and the Third Order of the Sacred Treasure. He is the author of many distinguished papers on physical and electrical subjects.

Since his graduation from Technology in 1901, Mr. du Pont has been closely identified with the development of du Pont de Nemours and Company. He began his career as a draftsman in Philadelphia, and joined the company of which he is now President in 1902. He is a member of numerous clubs and is a Life Member of the Technology Alumni Association.

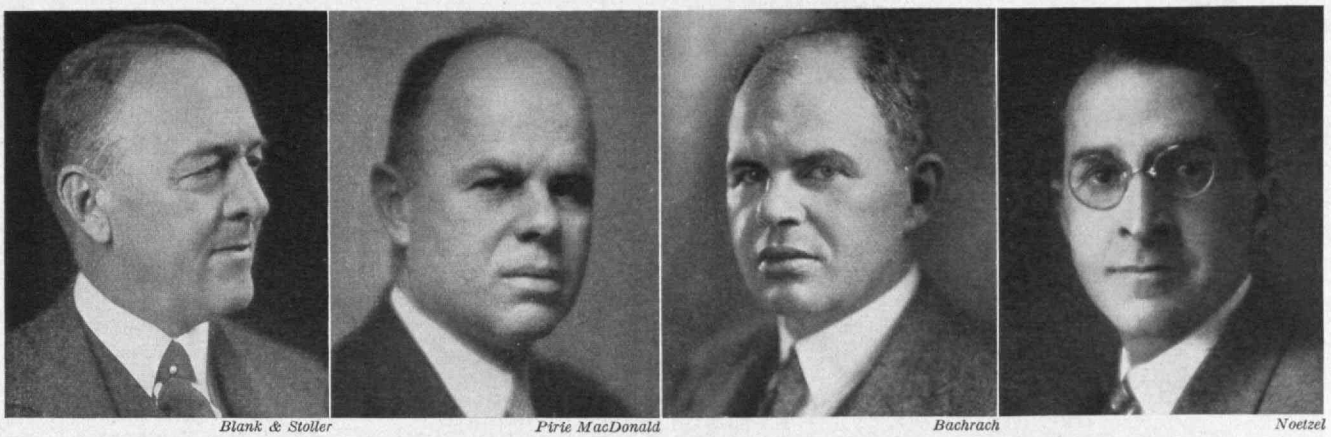


*H. E. Edgerton, '27, and K. J. Germeshausen, '31*

*Instantaneous photograph revealing strange progress of filaments of air as they are forced through the blades of a fan revolving at 1800 rpm. Titanium tetrachloride was used to produce the smoke. Vortices occur every time a blade passes*

## *The Poughkeepsie Races*

THE TECHNOLOGY varsity crew will not participate in the Poughkeepsie regatta this year or, so far as is now known, in any subsequent year, Dr. Allan W. Rowe, '01, Secretary of the Alumni Advisory Council on Athletics, recently announced.



Blank & Stoller | Pirie MacDonald | Bachrach | Noetzel

*Nominated for Term Membership on the M.I.T. Corporation. From left to right: William R. Hedge, '96, President, Boston Insurance Co.; Willis F. Harrington, '05, Vice-President, E. I. du Pont de Nemours and Co.; James M. Barker, '07, Vice-President, Sears, Roebuck and Co.; Donald G. Robbins, '07, of William H. Coburn and Co. of Boston. These names have been submitted for ratification by the Alumni*

The decision of the Council came not as an arbitrary ruling, but as the result of considerations involving the limited time for training and the consequent strain on the crew. Dr. Rowe pointed out that Technology rows a brief season with only five Saturdays available for competition, and during that time takes part only in races of two miles or less. The examination period then ensues, and by the time it is over, the men have definitely fallen off in physical condition.

Participation at Poughkeepsie, Dr. Rowe declared, means the building up of a four-mile crew in a period at most of some two weeks, a task that is physically impossible. Four-mile rowing calls for an endurance and stamina that can only be secured by a long period of training; the Technology athlete is denied opportunity to secure this preparation.

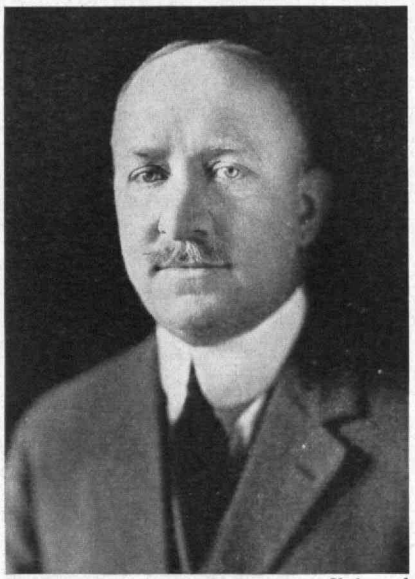
In canceling the Institute's competition in the races on the Hudson, members of the Advisory Council declared themselves unwilling to place any student under a physical strain for which he could not be properly prepared.

## *Balloons' Return*

OF THE 40 stratosphere balloons released by Technology meteorologists (The Review, March, 1934) from Lambert Field, St. Louis, in February, 28 have to date been found and returned to the Institute with their instruments intact. Members of the meteorological staff, under the direction of Professor Carl G. Rossby, are now at work calibrating the meteorographs, which brought back from the stratospheric regions valuable records of humidity, atmospheric pressure, temperature, and altitude.

The instruments were found in southern Illinois and Indiana, at distances from 75 to 150 miles from the point of their release. Preliminary readings of the first meteorograph received at the Institute indicated that the balloon rose to a height of 10.7 miles, where the temperature was recorded as −64° Fahrenheit.

The balloon study, which was undertaken in accordance with careful weather forecasts made at Technology, concerned a definite storm area or air mass. According to Professor Rossby, it is only by a long series of such experiments that a science of air mass analysis can be developed.



Underwood

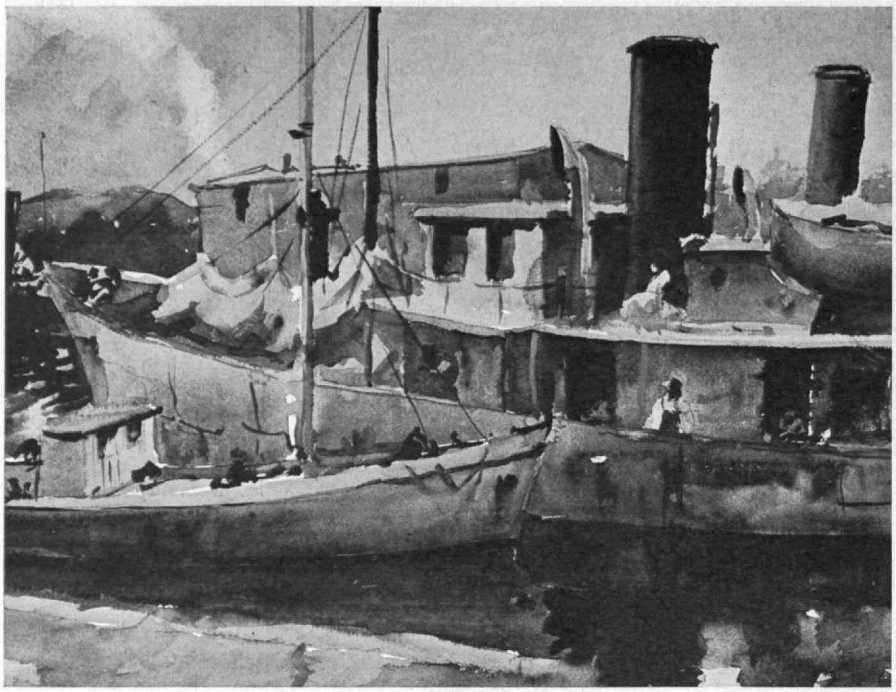
*Charles E. Smith, '00, Vice-President of the New Haven Railroad, sole nominee to the Presidency of the Alumni Association for 1934–1935. Marshall B. Dalton, '15, Vice-President of the Liberty Mutual Insurance Co., is sole nominee for the Association's vacant Vice-Presidency*

## *Bogy of Science Dispelled*

"THE idea that science takes away jobs, or in general is at the root of our economic and social ills, is contrary to fact, is based on ignorance or misconception, is vicious in its possible social consequences, and yet has taken an insidious hold on the minds of many people," President Compton told members of the American Institute of Physics and the New York Electrical Society at a joint meeting of the two organizations in New York on February 22.

Dr. Compton's address, which was broadcast over a national network, formed part of a program in which two other well-known scientists, Dr. Robert A. Millikan of the California Institute of Technology and Dr. Frank B. Jewett, '03, Vice-President of the American Telephone and Telegraph Company and newly elected Life Member of the Corporation of M.I.T., also defended science as a creator of employment.

"It has become evident," Dr. Compton went on to say, "that the spread of this idea is threatening to reduce public support of scientific work, and in particular, through certain codes of the NRA, to stifle further technical improvements in our manufacturing processes. Either of these results would be nothing short of a national calamity—



*The sketches on these facing pages, three watercolors and an etching, are the work of C. Fayette Taylor of Technology's Department of Mechanical Engineering. Taylor, whose specialty is Engine Design, sees nothing incongruous in his hobby of the graphic arts. He pointed out that Leonardo da Vinci, Fulton, and Morse were artists as well as engineers.* Above: "*Bangor Harbor.*" Below: "*Road Near Orleans, France.*" On the opposite page, "*Western Freight,*" *and* "*Rainy Evening in Waltham*"

barring us from an advanced state of knowledge and standard of living and soon placing us at an economic disadvantage in respect to foreign countries which have not let themselves be swayed by such a shortsighted point of view."

While he admitted that technological advances frequently result in labor-saving devices which temporarily throw large numbers of men and women out of work, he pointed out that this evil effect can be mitigated by wise handling of these new inventions. On the other hand, he declared, the major result of science is the creation of entirely new industries which not only furnish a multitude of new jobs but also increase per capita productiveness, thus permitting an increasing population unlimited by want, and a reduction in the number of working hours necessary for men to produce their necessities.

Citing figures from the United States Census, he showed to what extent the great modern industries based on scientific invention have increased employment over that of the occupations which they displaced. To the electrical industry, he attributed the creation of more than a million jobs; to the automobile, over 2,409,000 in 1930 as contrasted with the 976,000 persons employed in the carriage and wagon industry in 1900.

"I would simply ask the question of where and when our serious unemployment problem should have struck if 30 years ago, to restrain technological unemployment in the carriage and wagon industry, legislation or codes had been enacted which would have inhibited the development of the automobile industry. Such an action would have eliminated the source of income which now supports about 10,000,000 people of our population."

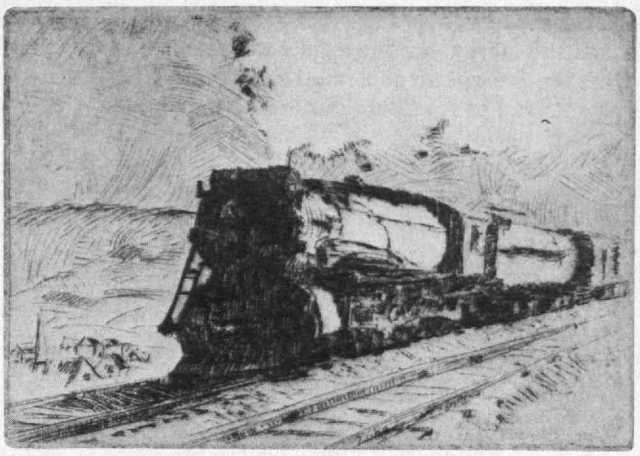
Other inventions and the approximate number of jobs for which they are responsible were: motion pictures, 389,000; telephone, 357,000; steamship, 217,000; radio, 100,000; machine tools, 87,000; refrigeration, 72,000; airplane, 50,000; rayon, 41,000.

In conclusion, President Compton said: "Man has an irrepressible curiosity for new knowledge. This is the fundamental basis and urge for scientific work. Man has also an irrepressible desire to use his knowledge for the accomplishment of his desires. This is the basis of invention and of engineering. These, I believe, are so fundamentally a part of human psychology that they cannot be fettered, though their free exercise may, of course, be hampered, or, on the other hand, be encouraged. . . . I believe that the extent of man's employment is governed by man's inherent desire and urge to do something. If science can relieve him of the more routine tasks, he is free to turn his attention to other things which excite his curiosity or satisfy his desires. In the last analysis, therefore, I believe that science simply increases man's power and the range of his activities. Most certainly, however, both theory and experience prove more conclusively that science has made jobs, not taken them away."

## *Inquisition vs. Accomplishment*

A YEAR AGO last September, a small group of students from the upper scholastic fifth of their class in accredited secondary schools were for the first time admitted to Technology without examinations. With the compilation of ratings at the end of the first semester, this trial group was found to have excelled their classmates with an average of 3.31 as against 2.97 for the remainder of the class.

Encouraged by the success of this experiment, Technology officials last autumn increased the percentage of upper fifth admissions to 44% of the incoming class. Again came ample proof of the efficacy of the new system.



The group admitted on the basis of previous accomplishment attained an average rating of 3.40 and the rest of the class, 2.77.

The adoption of still another alternative form of admission, that of College Board Plan B, was recently announced by the Institute Committee on Admissions. It will go into effect next autumn.

Instead of requiring many examinations, this procedure allows a high-ranking and well-recommended student from a secondary school to present subjects of his first three years on certificate, but tests the quality of his preparation by requiring College Board comprehensive examinations in four of his senior subjects. The Institute will require examinations in English, a modern language, advanced mathematics, and physics or chemistry. It will still retain the old College Board Plan A, upon which the larger number of its candidates are accustomed to enter, as well as the upper fifth plan and the New York Regents plan.

Commenting on the new move, Dr. James L. Tryon, Chairman of the Committee on Admissions, said: "College admission is becoming more selective and less mechanical, to the improvement of the student body. The coöperation between the secondary schools and the colleges is much closer than it was in former years. They are taking a joint instead of a separate responsibility for a student's fitness for college work. Personal qualities, character, and aptitudes, as well as school grades, are being considered as fundamental in the choice of candidates for admission."

## *Notes and People*

A GROUP of 30 alumni of the Architectural Department were recently invited by Dean William Emerson to compete for prizes offered by President Harvey N. Davis of Stevens Institute of Technology for a new building plan of that school. The contestants are graduates who are at present unemployed.

Gordon Bunshaft, '33, and Hubert H. Swanson, both graduate students in the Architectural Department, were recently awarded first and second prize, respectively, in the second week-end contest in architectural design held between students of Technology, Harvard, and the Boston Architectural Club. Mr. Bunshaft, a resident of Buffalo, N. Y., won the first prize of $50 in a field of 81 contestants. Mr. Swanson, winner of the second prize of $25, comes from Red Wing, Minn., and was graduated from the University of Minnesota in the class of 1932. The subject of the competition was a design for "A Group of Stadia for the Olympic Games." This is the second of the week-end exercises, three of which are held during the year, to be won by Technology students.

Open House, an event which has become outstanding in the Institute's calendar, has been set this year for Saturday, May 5. Last spring the program arranged by the Combined Professional Societies attracted more than 20,000 visitors. Plans are now under way to entertain an even greater number of guests next month. All laboratories will be open and there will be many new and fascinating exhibits.

Dr. Harlow Shapley, Director of the Harvard Observatory and Life Member of the Institute's Corporation, discussed "Engineering Problems and Practice in the Construction of Galaxies" in the fourth Aldred lecture on February 16.

Mr. James Roosevelt, son of the President, addressed members of the Faculty Club on March 6 on some current problems in national politics.

R. E. Flanders, President of the Jones and Lamson Machine Company, spoke on "The Future of Business Enterprise" in the final Aldred lecture of the season on March 16.

Underwood

*Abbé Georges H. Lemaître, the distinguished Belgian astrophysicist, who holds the degree of Doctor of Philosophy from Technology, has been awarded the Francqui Prize of 500,000 francs, for the most important contribution to science made by a Belgian during the past year, and for thus increasing the international prestige of his country. The prize was established by the Francqui Foundation of Brussels last year and is awarded Abbé Lemaître for his theory of the expanding universe. Abbé Lemaître was awarded his doctorate in 1927. He returned to the Institute this winter for several weeks to work with Dr. Manuel S. Vallarta, '21, on theories of cosmic radiation*

The annual prize for the outstanding paper presented during the year before the Designers' Section of the Boston Society of Civil Engineers was awarded to Dr. John B. Wilbur, '26, of the Department of Civil Engineering, at a meeting of the Section on March 17. Dr. Wilbur's paper, which was presented last January, described "A New Method for Analyzing Stresses Due to Lateral Forces in Building Frames."

## *How Tall Are Technology Students?*

LAST autumn Dr. Harold S. Diehl published an interesting study of the height and weights of American college men. His survey was based upon data from ten institutions, and included records of 23,122 men. He found that the mean weight of this group was 141.65 pounds; the mean height, 68.68 inches.

While Technology was not one of the institutions included in this survey, data are nevertheless available on the height of our students. Measurements made in 1933 and, covering 2,500 men, yielded an average Technology height of 67.5 inches — more than an inch less than Dr. Diehl's mean.

In February, the President's Office undertook a less extensive survey, but the results were equally interesting. Here are average heights in inches from four institutions:

| | |
|---|---|
| Case School of Applied Science | |
| Four-year average (1930–1933) | 69.94 |
| Yale University | |
| Average for classes of 1936 and 1937 | 69.60 |
| Princeton University | |
| 1930 average of 2,000 | 69.28 |
| Stanford University | |
| Five-year average | 69.00 |

## *Technology in Motion Pictures*

"TECHNOLOGY," the first extensive motion picture of Institute facilities and student life, has been completed and is now ready for distribution to alumni groups and schools. The film is an all-Technology production in that the scenario was written and the photography was done by members of the staff, each contributing his special knowledge in the development of a comprehensive and entertaining record.

The Institute's new film was designed primarily to interest the average student of pre-college age who is curious to know what Technology is like, the extent of its facilities, and the significance of science and engineering in various fields. To alumni, the picture presents the varied activities of the Institute in a form which for interest is second only to a personal visit.

The scenario of the film is built around a typical student of high school age, who visits the Institute and consults Dr. James L. Tryon, Director of Admissions, on the educational opportunities at Technology. The broad field of science and engineering is outlined for him and by a motion picture he is shown what engineers and scientists do. Later he visits various buildings and laboratories and finally is taken by a student to the dormitories, where he is introduced to the informal extra-curricular student activities, including sports. Stewart T. Martin, '34, of New York, played the "lead" as the student who visited the Institute. His student guide and host in the picture was John F. Longley, a graduate student, of Maplewood, N. J.

The scenario of "Technology" was written by a committee composed of J. Rhyne Killian, Jr., '26, Chairman, Professor Clair E. Turner, '17, and Professor L. F. Hamilton, '14. Professor Arthur C. Hardy, '18, was Chairman of the production committee, which designed special lighting devices, directed, and produced the film. Assisting him were Professor Edward L. Bowles, '22, Dr. S. H. Caldwell, '25, and Frank H. Conant, of the Institute's photographic service. Professor C. E. Tucker, '18, had charge of scheduling the various scenes. Mieth Maeser, '28, and C. M. Wareham, '16, assisted the production committee during the filming.

Considerable ingenuity was exercised in the construction of equipment used in filming the scenes. Most of the lighting fixtures were made at the Institute and were specially designed with an eye to portability and easy handling. A portable switchboard was designed by Dr. Caldwell and constructed and wired in the carpentry and electrical shops, making it possible to use the power facilities in any part of the Institute.

Because most schools and many homes are equipped with projectors for 16 mm. film, "Technology" was produced in this size. It is hoped that the alumni will avail themselves of the opportunity to show the film before groups of students of their communities. Application for the film should be made directly to Dr. James L. Tryon, Director of Admissions, a member of the distribution committee of which Professor Charles E. Locke, '96, is Chairman and J. J. Rowlands is the third member.

## *Alumni Assemblies*

IF THE 171st meeting of the Alumni Council on February 26 dropped to a new low in attendance (39), the Home-Coming Alumni Dinner on February 17 hit a new high (850). With the exception of the dinner in 1920 at which the mysterious "Mr. Smith" was revealed to be George Eastman and which drew an attendance of 1,070, the 1934 Alumni Dinner was the largest in the Association's history.

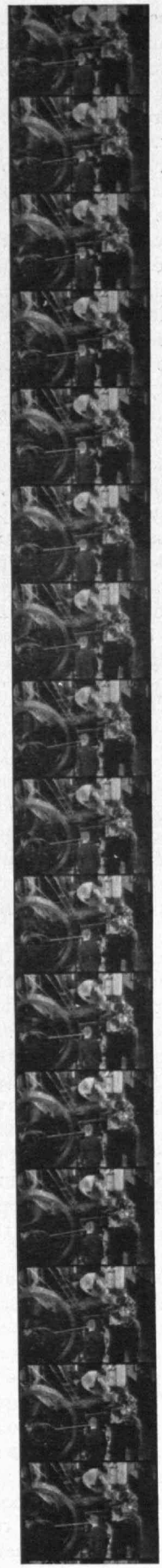
It was also one of the most enthusiastic. Classes not only competed for attendance (1926 won with 43) but for decibel delivery (1914 taking the honors). The Institute's first class, 1868, had the highest percentage of its membership present (one out of two), with Robert H. Richards occupying his usual coign of vantage.

Redfield Proctor, '02, President of the Alumni Association, presided at the dinner and he presented as speakers Dr. Frank Aydelotte, President of Swarthmore College, Dr. Compton, President of the Institute, Dr. Bush, '16, Vice-President and Dean of Engineering, and Dr. H. E. Edgerton, '27. President Aydelotte, who once taught English and history at the Institute, spoke out of his considerable experience with engineering education and strongly recommended a more cultured, well-rounded education of the engineer. With undesigned appropriateness, President Compton spoke of the Institute's efforts to prepare men not only to be engineers, scientists, and architects, but to be useful, happy citizens as well.

At the beginning of his address, Dr. Compton paid tribute to the late Everett Morss, '85, for many years Treasurer of the Institute and a member of the Executive Committee of the Corporation and for two terms President of the Alumni Association. Dr. Compton made public for the first time the story of the Blashfield murals which adorn the walls of the great hall in which the dinner was held.

Mr. and Mrs. Everett Morss had taken so much pleasure in the Blashfield murals in their own home that they conceived the idea of bringing similar pleasure to the thousands of Technology students who use the great hall of the Walker Memorial for dining and social functions. Mr. Morss, therefore, wrote to Mr. Blashfield to find out under what terms he would paint the proposed murals. Blashfield, himself an M.I.T. alumnus, '69, replied that he had always wanted to do something for the Institute and that he would, therefore, be glad to donate his services, provided the actual cost of materials and labor of assistants could be taken care of. This expense, which ran into many thousands of dollars, was quietly taken care of by Mr. Morss himself. Thus these splended murals, which are distinctively the creation and gift to the Institute of Mr. Blashfield, should be at the same time an added reminder to Technology of the thoughtful, energetic, and varied contributions to its welfare made by Everett Morss.

*Frames from the cinema "Technology."*
*See opposite page*



President Compton then proceeded to lay the groundwork of his message in the form of a dramatic sketch entitled "Ghosts and Skeletons," in which the Dramatis Personae were:

A Boy, who had ambitions to enter the Institute

His Father, who was conscientiously seeking advice in regard to the educational welfare of his boy

The Voice of Wisdom, which came to the Father's aid in an emergency

Three Ghosts

Two Skeletons

One Will-of-the-Wisp

An Army of Facts

The crisis of this drama comes when the Father, perplexed by conflicting advice, falls asleep and dreams. He is wandering over the vast stretches of America in search of the ideal educational institution for his boy. For a time he chases a Will-of-the-Wisp by the name of "Perfect Pedagogy," who takes various forms suggestive of the educational experiments now current in various educational institutions. After a fruitless chase, The Voice of Wisdom speaks, saying: "Perfect Pedagogy is a Will-of-the-Wisp. All of these pedagogies have their values, some better, some worse, but their greatest value is in the enthusiasm and confidence which they instill in teachers and students alike who believe in them. No pedagogical system can take the place of sincere search for truth, earnest effort to use knowledge for human welfare, and the inspiring example and guidance of a faculty

composed of great men. And above all, remember that real education comes from within and is achieved by hard work."

The Father is then assaulted by five gruesome creatures. Three of these are Ghosts, one green, one yellow, and one gray, in accordance with their characters. The other two are Skeletons which have survived on a moldy food known as Tradition. These Ghosts and Skeletons stand for the arguments which are most frequently encountered against scientific or technical education in general, or study at M.I.T. in particular. The Ghosts are false, while the Skeletons have in them an element of truth, which, however, has been changed in recent years or is in process of change now. The green Ghost shouts: "Tech trains technicians, but you will always find them working for someone else." The yellow Ghost cries out: "Tech is too hard to enter and too hard to get through." The gray Ghost, which is a mixture of black and white, or truth and falsehood, shouts: "Tech is a fine place for postgraduate work, but its undergraduate program lacks features which are important to a boy of college age."

These creatures are put to rout by an Army of Facts, summoned by the Voice of Wisdom. This Army uses strange ammunition. For example, its heavy artillery shoots the names of outstanding Tech alumni. Similar ammunition is formed by such facts as the holding of major executive positions by 80% of the graduates of Tech's Course in Business and Engineering Administration. The Skeletons are taken in hand by the Medical Corps. Finally convinced that M.I.T. is a proper place for his son to study, the father returns home and tells the boy that he can enter the Institute.

In commenting upon some of the points thus allegorically raised, President Compton defined his idea of a cultural education adapted to present-day conditions. Starting with the definition that culture is the "sympathetic understanding and appreciation of life," he analyzed the elements necessary to such understanding and appreciation as embracing: first, the physical universe through the study of the sciences; second, the practical applications of science for the accomplishment of human desires, through the study of engineering; third, the realm of human thought through the study of history, literature, psychology, and philosophy; and fourth, social institutions and social problems.

Every educational program should contain elements of all four of these main divisions of study. The M.I.T. program is far better provided with a balanced distribution than most people realize, but it is highly important at the present time to strengthen in particular one of these lines of work; namely, the study of social problems and social institutions, because of their importance in connection with all social activities, whether in a professional field or otherwise. President Compton suggested that with this addition there are present in M.I.T.'s program of study the elements for either a well-balanced professional training in science, engineering, or architecture, or a well-balanced general training in science and arts.

Dean Bush introduced the new cinema "Technology" (see page 272), which received its first alumni showing at the end of the dinner and Dr. Edgerton presented a selection of his high-speed motion pictures (see page 268), the nature of which are familiar to Review readers.

THE Council meeting on February 26 was the annual combined meeting with the Faculty Club of the Institute and the small attendance was due to the blizzard which was of sufficient intensity to draw inevitable if bromidic comparisons with that memorial year of 1888. The chief item of business which preceded the program arranged by the Faculty Club was the presentation and acceptance of the following report, prepared by a committee appointed by President Proctor and consisting of Edward L. Moreland, '07, and Harrison P. Eddy, Jr., '17.

"In accordance with a recent vote of the Corporation, President Compton has requested the Alumni Council, through President Proctor, to work out a plan whereby members of the alumni selected by the Council may be recommended to the Corporation for appointment as Alumni Representatives on the Corporation Departmental Visiting Committees.

"The Special Committee of the Executive Committee to which the question was referred for consideration and recommendation feels that the Visiting Committees are of vital importance to the Institute and that an opportunity is thus afforded to the Alumni Council to be of real help to the Institute by selecting the best possible Alumni Representatives. The Committee feels that the matter is of such importance that a Special Nominating Committee made up of Alumni thoroughly acquainted with the needs and requirements of the Visiting Committees should be appointed for the purpose of nominating to the Council representatives of the alumni particularly qualified to serve on the Visiting Committees.

"The Committee therefore recommends:

"1. That Alumni Representatives to be recommended to the Corporation for appointment to the Corporation Departmental Visiting Committees shall be elected annually by the Alumni Council at the May meeting of the Council.

"2. That a Special Nominating Committee be elected by the Council to nominate Alumni Representatives to be elected by the Council for this purpose.

"3. That this Special Nominating Committee consist of six members of the Alumni Council nominated by the Nominating Committee of the Alumni Council and elected by the Council, in the first instance two members to be nominated and elected for terms of three years, two for terms of two years, and two for terms of one year, respectively, and each year thereafter two members to be nominated and elected for terms of three years, the senior (by class) of the outgoing members of the Committee to act as Chairman thereof."

The Faculty Club had invited Dean Robert E. Doherty, of the School of Engineering of Yale University, to speak to the combined meeting on "Essential Undergraduate Requirements for an Engineering Education." Taking a different tack, Dean Doherty drove in the same general direction as did Presidents Compton and Aydelotte at the Alumni Dinner. He described the unique curriculum worked out in electrical engineering at Yale to give a broad training and avoid specialization.

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At the close of the day, at the end of the week, at the turn of the year, when your mind ranges back to sum it up, what counts for most?

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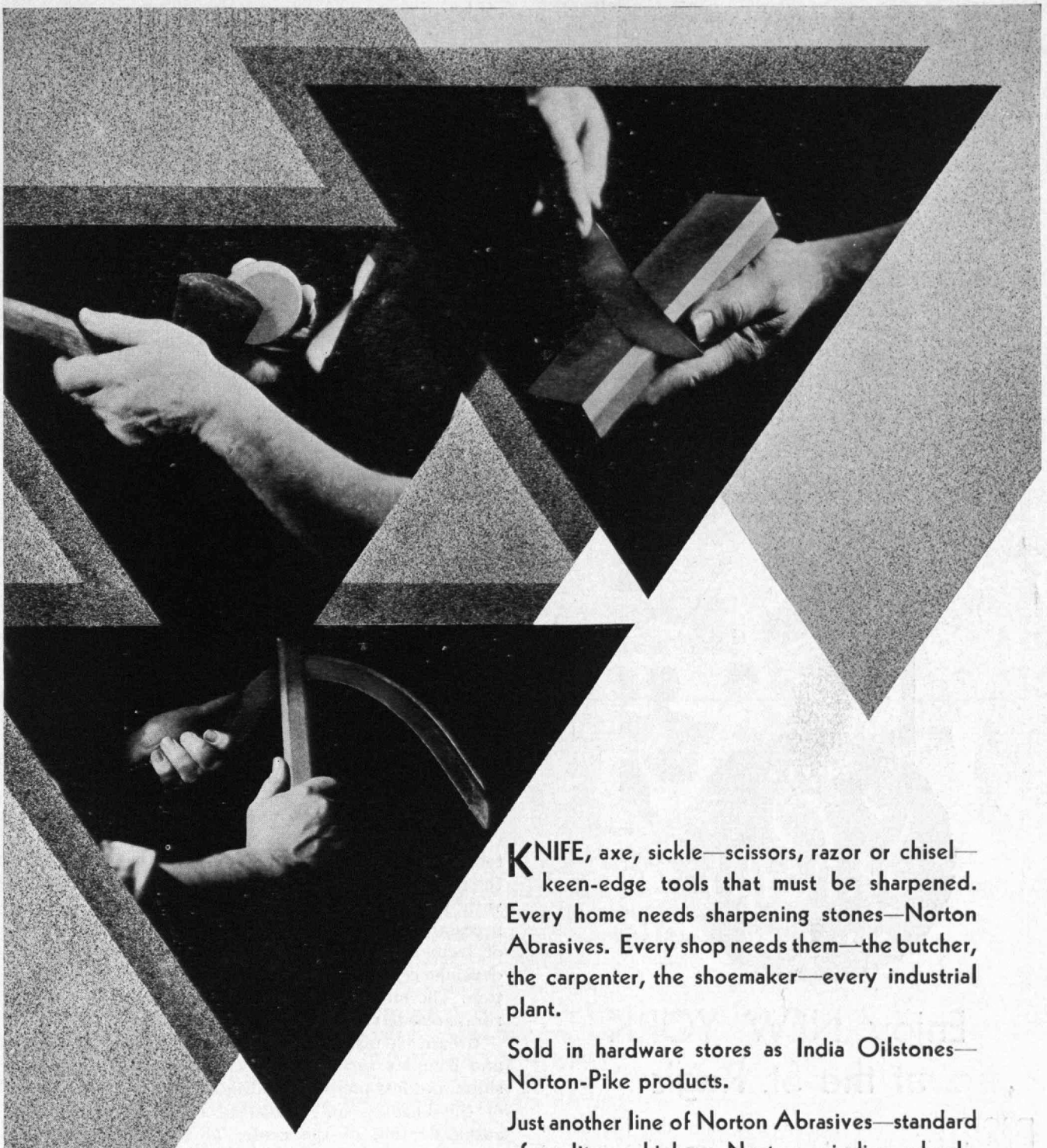
## TOWARD BETTER CITIZENS

(*Continued from page 255*)

by shunning them and showing that we reject them, we throw them back into their own ethnic or linguistic group until some isolated economic good fortune to a few gives them the superficial graces which make them acceptable.

City planners have usually failed to recognize the cycle of congestion that so-called improvement in rapid transit entails. Very few plans and planners say that any metropolis is large enough and that a process of decentralization should be encouraged. No, under the guise of public works or in order to further the flotation of bonds by high pressure investment houses, or to sell more lots in outlying subdivisions, more extensive additions are made year by year to transportation facilities. Due to the friction of space, the more people poured into the central area, the more fantastic must be the buildings, the sidewalks, the service facilities to handle them. Expeditious transportation to and from work does not solve the problem, it increases it a hundredfold. The easier it becomes for persons to move rapidly into the center, the farther removed are the homes of the workers. Longer hours must be spent on transportation vehicles even though they move at a higher rate of speed and carry more people.

The suburbs are frequently called the bedrooms of the metropolis. Most people have never stopped to think what this means in terms of family life, corrupt politics, and the increasing tenuosity of urban life. I have several brothers-in-law who live in New Jersey and commute 40 to 60 miles to Manhattan. They get up at seven o'clock in the morning, usually before the children are dressed or even awake, eat a hasty breakfast, have either a long walk to the suburban station, or their wives, half awake and half dressed, dash them to the station in the family car, for the family car must be available to take the children to school in rainy weather and for the usual round of domestic routine. The man catches the 7:45, rides for 60 minutes to Jersey City, transfers to the ferry boat, walks three blocks to the up-town westside subway, transfers at Times Square to the shuttle for the Grand Central area, where he reaches his office at about 9:05. In all of these stages there has impinged on his physical and mental systems a variety of exhausting stimuli. He reaches his daily task in perhaps the same state of tiredness of most mid-western business men at the noon hour. The return is made under the same trying conditions. He reaches his home between seven and seven-thirty. The children have had their supper and those still under ten are ready for bed by the time he arrives. There is, at least on five days of the week, no possibility of companionship between father and children. Since the man has little chance to play golf or tennis during the week, he spends Saturday afternoon and most of Sunday, if the weather is good, at this activity while his children look on in mild awe at this strange creature whom they see mostly from their nursery beds. Husband and wife, at most, have the evening together. If either one is socially inclined, most of the evenings will be spent away from home. A worse (*Continued on page 278*)



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## TOWARD BETTER CITIZENS

(*Continued from page 276*)

situation arises when the husband, tired from the confusion of the day, wants to be quiet and read at home, while the wife, who has had all the quietness of the house and the noisiness of the children during the day, wants to go out in the evening. Friction in family relations and domestic discord thus ensue from the fact that the husband is separated for so many of the waking hours from his family. I have tried to point out that such social situations are likely to be brought about by reason of the ever-extending transportation systems.

It has long been my belief that the deplorable municipal politics of our large urban centers is due, in part, to the antiquated relationship of suffrage to place of residence. Why should my brother-in-law in Homecrest, N. J., worry about Tammany corruption? So long as he is personally unmolested while in Manhattan, he is unconcerned about the crooked courts and inefficient police systems of the metropolis. He serves as alderman and member of the Board of Education of his little village. It is fine perhaps that these inconsequential Jersey towns have the benefit of the civic spirit of upstanding citizens, but the effort is misplaced. Chicago is another outstanding example of how the heart of the city, the key of the metropolis, is left a victim for the savage wolves of political plunderers while the brains of the "loop" breakfast, dine, and sleep in smug complacency in Winnetka, Hubbard Woods, or Evanston.

The continued concentration of population in giant cities not only carries with it personal, social, and political hazards, but also structural defects that become more formidable as the metropolis grows. One of the ever imminent dangers, as Stuart Chase indicates, is a technological breakdown, a severing of some or all of the nerve centers or arteries that supply the metropolis with food, clothing, fuel, water, and other utilities necessary for its existence. This might be called a state of technological tenuousness by reason of this utter dependence on the services of supply and transportation. The modern city possesses a vulnerability which rural areas have seldom known.

Urban expansion means, then, increased extensions and complex services, less sustained family relationships, and less political identification of the real leaders of the business and industrial community with the administration of the center of the metropolis. All these factors should be weighed by the city planner as he widens city thoroughfares, plans high-speed traffic streets, burrows under rivers, and spans bays. He may think that he is solving problems, and he is solving problems of the moment, but he is only creating bigger ones for the student of social, political, and economic relations to solve later.

ANOTHER shallow spot in city planning, thought, and practice is on the subject of garden cities. If we accept the three fundamentals set up by Ebenezer Howard in 1898, *viz.*, public ownership of land, the integration of the economic life (*Continued on page 280*)

## TOWARD BETTER CITIZENS

(*Continued from page 278*)

of the people in the town with local trade and industry, and limitation of size, we will not find in the United States anything that resembles the English ideal. We have any number of examples of *model* towns, beautifully planned, attractively landscaped, but no more a solution to the "bedroom-of-the-metropolis" problem than the ordinary real estate subdivision.

The matter of public ownership has been an anathema to Americans. There is some traditional pride in actually owning the land on which one's home is built. It is as if the home as a social institution were more secure if one possessed the land in fee simple. This complex of absolute ownership is pretty much a myth when one considers the considerable inroads of police power in recent years in the guise of zoning, health regulations, building restrictions, and regulations. In business property, the 99-year lease is regarded as sufficiently sound to warrant the erection of valuable buildings of more or less permanent character; but in the matter of home ownership, it must be absolute so far as title is concerned. I am pointing this out because I believe it is an important limitation on the realization of one of the English garden city principles set forth above.

As to the attempt to integrate the persons in the town with local trade and industry, there have been relatively few attempts in the United States except the company town, which is, of course, a single-purpose town as much as a school or church structure is a single-purpose building. Lumber towns, steel towns, and mining towns are some of the worst examples of single industry towns, thoroughly unsatisfactory in every respect except perhaps to the company owning the mills, which occupies a position analogous to the feudal baron with his serfs living in close proximity, ready to go to work or remain idle at his beck and call, and that only at the assurance of profits or the threat of loss. The scandalous exploitation of industrial workers by these company towns, whereby checks must be paid in company commissaries, rents paid for dilapidated and inadequate company houses, and fees surreptitiously paid to incompetent company doctors in order to get medical attention. All this is well known to students of American industrial history. The newest, and I hope the best, example of a single-purpose town is that at Boulder Dam, competently planned and owned and operated by the United States government.

From what I am able to learn about Kingsport, Tenn., ably planned, I should say that while it started out as a railroad venture to create traffic through exploitation of the adjacent natural wealth, the development of the town was actually taken over by an improvement corporation which represented all the leading business and railroad interests. Mr. Nolen, in "New Towns for Old," says: "Looking to community well-being, it forestalled the evils that modern industrial developments otherwise bring in their train as surely as neglected puddles breed mosquitoes. The Kingsport Improvement Corporation owns most of the real estate; it builds, rents, and sells houses; it runs a power plant. In other words, Kingsport is an intelligent adaptation of the British garden city idea to American industrial conditions."

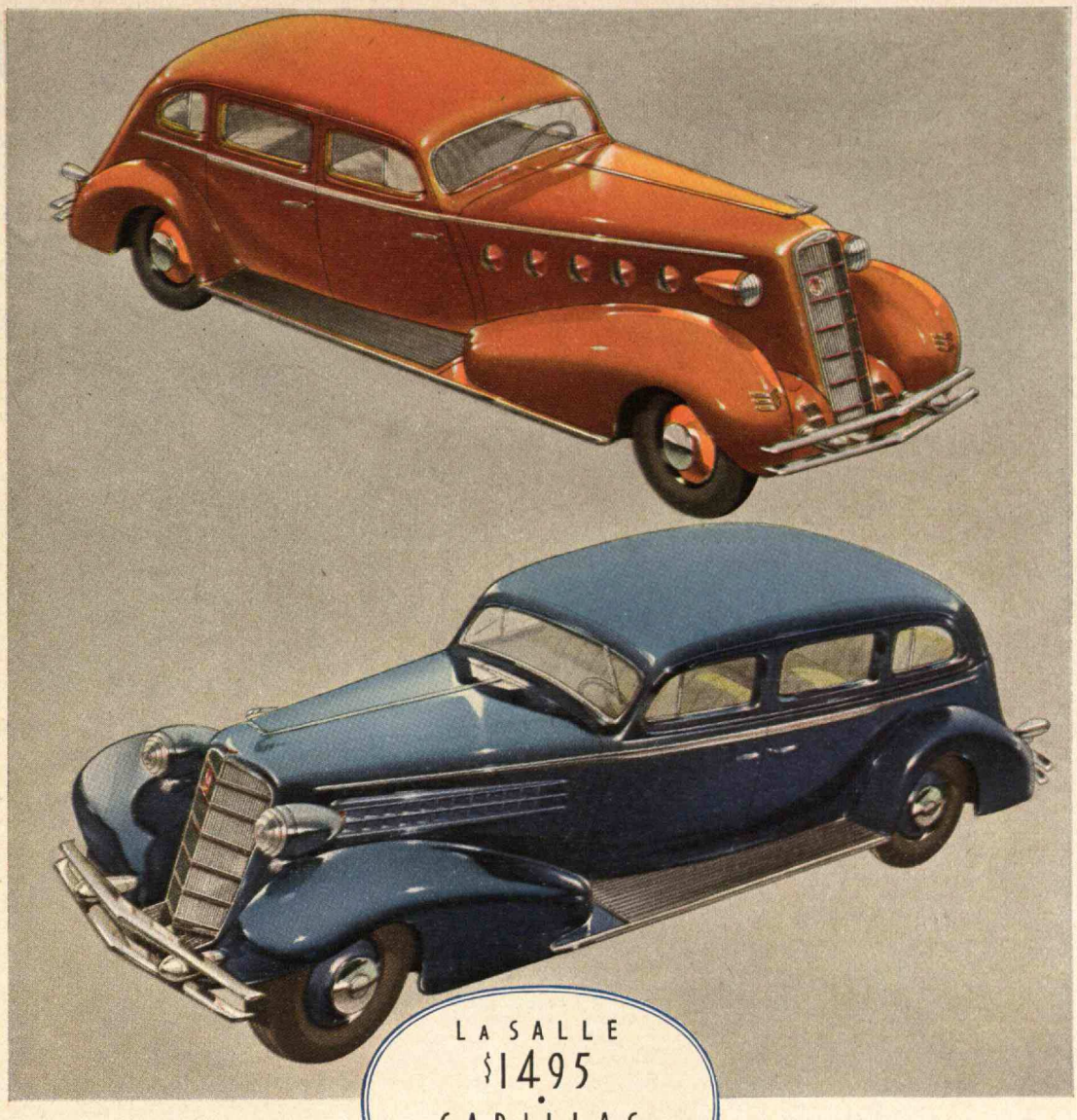
In so far as the so-called garden suburbs on the periphery of the larger American cities are better planned than the crassly commercial real estate subdivisions, they are worth while, but at best they seem to me to dodge all the fundamental issues. They provide attractive surroundings to a class of white-collar workers whose annual income might range from three to six thousand dollars a year. These model suburbs, and that is all that they can legitimately claim to be, furnish only the same "bed-room" social existence that any satellite town does. Sunnyside in Queens reduces down to a vast number of connected dwellings with common play places and one of its principal sales talks is the nearness to the subway. Radburn, N. J., is a delightfully planned suburb, incorporating all the latest ideas of grade separations at traffic intersections, footpaths that lead children to school without involving traffic dangers, and so on. But Radburn's chief asset is its rapid transit connections and motor roads to New York City.

Mariemont on the outskirts of Cincinnati, Ohio, is often pointed out as a model town. It deserves that compliment so far as Mr. Nolen's services and inspiration are concerned, but it has failed just as all these other ventures have failed in attacking, much less solving, the social problems of urban life.

Mariemont was sponsored by a wealthy lady who had her own very definite ideas about housing industrial workers in some of her husband's plants. Somewhere along the way the industrial workers were lost sight of, for the housing is of such high cost as to make it appear to a University of Cincinnati professor a luxury to live there. The head of the Research Division of a large welfare agency in Cincinnati told me recently that it was too expensive a place for him to live. The project now is neither the recipient of the attentions of a Lady Bountiful nor is it a successful commercial enterprise. The attractive hospital, large enough for a small city, has never had a patient in it. The arterial highway from Cincinnati is still handicapped by two right angle turns, two railroad crossings at grade and one concrete culvert so narrow as to be labeled "one way." The main lines of the Pennsylvania and the Chesapeake and Ohio Railroads skirt the south and western edges of the village at a considerably lower grade so that the dust, soot, and noise are blown across the adjacent lots at street levels by the prevailing winds. Mariemont today has the look of a lost cause, but, from what I can find out about its origins, it never did have any more possibilities of making a fundamental contribution to better urban life than any of the host of mild innovations on the time-honored exploitation of land and people.

In so far as the recreation and leisure time facilities are more accessible and abundant in these pleasant suburbs, they are solving a social problem of modern urban life, but they fail absolutely in bringing the father closer to his family on the one hand and to his work on the other. He and his family are the unhappy victims of the alleged advantages of rapid transportation.

(*Continued on page 281*)



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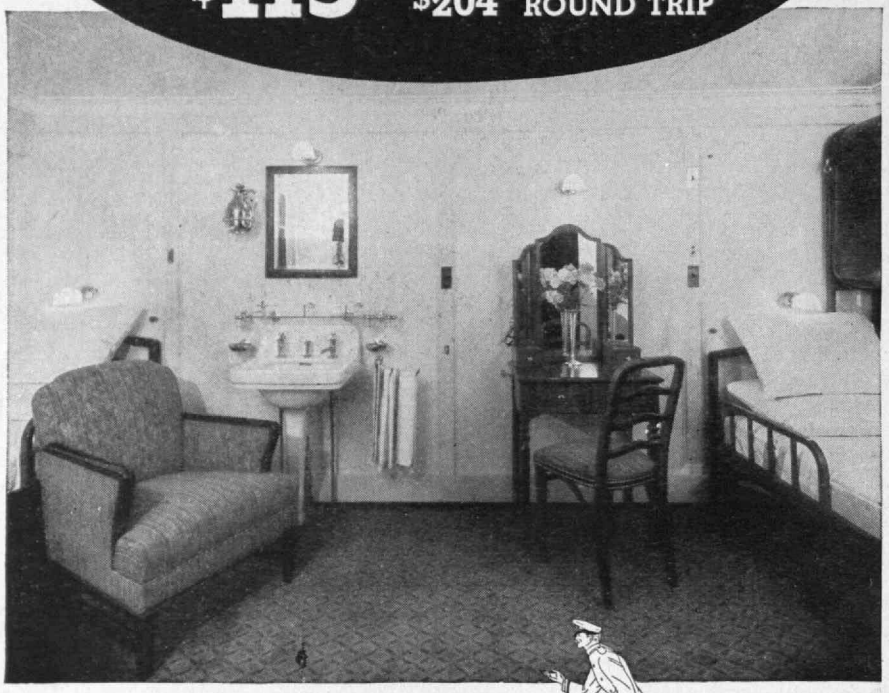

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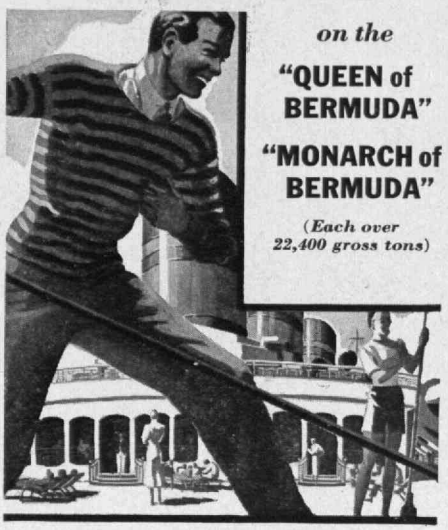

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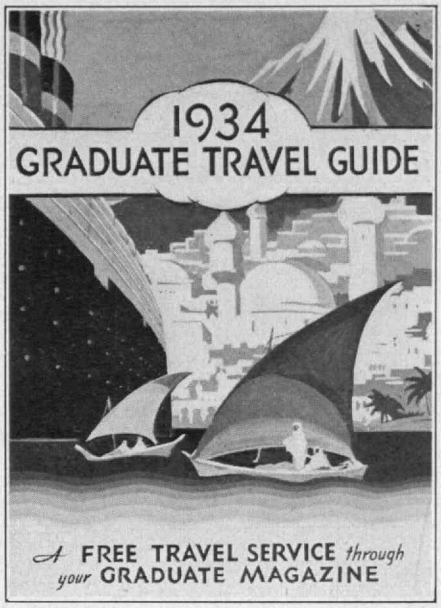


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## TOWARD BETTER CITIZENS

(*Continued from page 280*)

No program of city planning is complete unless it takes into consideration the housing facilities of the city and formulates some plan of action for improvement of conditions. Gist and Halbert, in their new book "Urban Society," say: "Since the industrial revolution, the problem of providing decent and sanitary living quarters for an urban population has been an acute one and incidentally one that has not been faced squarely in this country. A considerable percentage of the population of every city in the United States lives in crowded tenements that are drab, uncomfortable, and unsanitary. In the blighted districts of rich and powerful cities are block after block of slum dwellings unfit for human occupation, if judged by any reasonable standard. Yet in a country that prides itself on its progressive policies, there has been little concerted action to improve the unspeakable housing conditions, either in the city or in the rural areas."

Beginning with the National Housing Conference in Cleveland in July, 1933, a great rebirth of interest in housing has taken place in the United States. Federal funds have been made available under the Public Works Administration for slum clearance and rehousing. In a paper which I read before the National Conference on City Planning at Baltimore last October, I said in part: "The recognition of the influence of environment on human behavior is at the bottom of the movement for slum elimination. New housing is provided in the expectation that the improved physical environment will result in improved standards of conduct, more stable and happier family life. The whole community has a right to expect to benefit by this movement, for the alternative to slum elimination is greater and greater subsidies to our jails, prisons, hospitals, and relief agencies. A rehousing program that does not have as its basis this aim of fundamental social rehabilitation is nothing more than a brick and mortar proposition and its value lies only in the amount of employment it produces at the time of construction."

A slum is usually thought of as a section of the city where day laborers, criminals, and prostitutes live in a more or less permanent state of poverty in dilapidated hovels or towering tenements. A slum area can sometimes be identified merely by walking through it, but because the public is used to thinking of these drab physical conditions, many persons frequently overlook the less obvious social conditions that are inherent in the slum areas and which serve to identify it as surely as the count of physical disrepair and obsolescence. That there is a high degree of correlation between bad physical conditions and bad social conditions we know from hundreds of studies of urban problems all over the world. It is especially true in the United States, where a relatively high standard of living obtains for a large share of the urban population. People, so reduced in economic adequacy as to have to live in sub-standard dwellings over a period of years, are apt to show other manifestations of maladjustment; that is to say, the most serious problems of vice, (*Continued on page 282*)

## TOWARD BETTER CITIZENS

*(Continued from page 281)*

crime, disease, delinquency, and dependency are usually found associated with this physical index of disrepair and obsolescence.

If it is impractical, due to limitation on research resources, to investigate these subsidiary attributes of the slums, it may be possible to get a fairly accurate estimate of what these conditions are by a survey of the physical elements in the area. Such a survey is frankly limited to an enumeration of the physical aspects of the areas. The student must then take into consideration the relation of the physical to the social. He must realize that lack of inside water connections, bath tubs, and toilets means a low state of household and physical cleanliness. The lack of privacy in toilet facilities not only throws modesty to the winds but gives every encouragement to indecency and delinquent behavior on the part of degenerate persons. Exposure of children to these physical conditions means exposure to these demoralizing persons. The spread of skin disease and body vermin is of course facilitated by common use of toilets.

The ratio of one person per room or more than one person per room may not mean very much in terms of figures. The student must interpolate the social situations that lie back of these figures. He must realize that children get less sleep when they are put to bed in rooms where grown-ups are stirring about and that the adults cannot entertain friends. Especially the 'teen age members of the family cannot have their friends in where children are supposed to be asleep. With overcrowding and uncleanliness go drab furnishings, unsightly walls, producing a total complex so uninviting and unlovely that the father and older children, the more mobile members of the family, are almost forced to seek their recreation and to spend their leisure time in pool rooms, stores, dance halls, and loitering places. Exposure of the youth and temptation of the adults to unsocial and criminal behavior become a certainty.

Just as some families may live in slum areas without showing evidence of demoralization, so may be found families in the rehabilitated slum areas that do not react quickly to the change for the better. Slum eradication must be something more than translating bewildered persons from packing boxes into bright, clean, sanitary tenements. Culture patterns and human behavior change slowly. Adults, youths, and children habituated to conditions of dirt and dilapidation need encouragement, precept, and education to assist them in living up to better physical surroundings. The technique of the social settlement, the approach of the visiting teacher, the method of the instructive district nurse must be used to make any group of re-housed families get the full benefit of slum eradication.

SHALL we have super cities, further centralization, or shall we look forward to a period of decentralization in which most of us will go back to the land? Several writers lately have let their imaginations run away with them and, with the embellishments of clever illustrators, have placed in our hands fantastic concepts of the urban

life of the future. The lay public is already somewhat familiar with such books as Kern's "The Super City" and Hugh Ferris's "Cities of Tomorrow," with their layers of superimposed streets and hanging sidewalks, cloud-piercing buildings with zeppelin docks and autogyro landing fields upon them, central heating, central feeding, even agricultural workers living in huge tenements and flying to their fields and gardens. Just how much of this is nonsense no one knows. With the continued additions to the transit facilities and the new overhead super highways which can only bring about greater and greater congestion in the City of New York, it might appear that we were headed in that direction.

It seems to me that we can, to some extent, read the future in terms of the nature of our modern power system as against that of the recent past. The Nineteenth Century was an era of centralization of population due to the transition of industry from hand production in cottages to machine production in factories. Factories thus gave a new impetus to the growth of cities which had before been mostly trading centers, administrative, and military headquarters. These cities and towns were unprepared for this sudden and tremendous increase in population. There was no experience to draw upon to cope with problems of sanitation, water supply, transportation, poverty, and disease. All too quickly selfish, unrestrained, and unregulated industry, through the factory system, laid its blighting hand upon city dwellers. The power to run these mills in the early years of the factory system was obtained from the direct utilization of mechanical energy from steam produced by the burning of coal. Complicated systems of belts, pulleys, rods, pistons could carry this form of mechanical energy but a short distance. The factories had to be large and the units close together to be economical and efficient from the standpoint of power. The situation today is quite different; power is not transmitted directly from heat energy into mechanical motion to drive the machine, but is transformed into electrical energy which may be transported over great distances and utilized as efficiently in small as in large units. This makes it possible to locate the place of manufacture on the basis of favorable labor markets, consumption outlets, or sources of raw material, as well as to operate economically with small motors in small units. This all indicates to me that there is less and less reason to concentrate industries in large units in a few areas. Cheap and rapid motor transportation gives industry a (*Concluded on page 284*)

## TOWARD BETTER CITIZENS

(*Concluded from page 283*)

certain independence of railroads, a hitherto undreamed of situation. Lower land rent, lower building costs, so far as the plant is concerned, and lower labor costs because of lower living costs, together with more flexible communication and transportation systems, certainly lead me to believe that we are about to see a process of decentralization. This process may continue until we have a redistribution of population comparable to that of the early Eighteenth Century. I do not believe that the process of urbanization, however, will be reversed. That type of culture as distinguished from rural culture is clearly and permanently in the ascendant. There are no indications on the horizon that we shall ever return to a pastoral or agricultural way of life for the majority of persons in our western civilization, notwithstanding the predictions of the homestead enthusiasts like Nutting and Borsodi at Dayton, Ohio.

In view of what seems to me an inevitable decentralization, the city planner of the future must certainly think in terms of regional areas so far as planning the physical needs of urban dwellers is concerned. More than that, he must acquire the habit of thinking and planning in terms of the totality instead of the speciality, if I may coin a word. He must borrow from the Gestalt theory of the German psychological systems. The total configuration, the total complex of man and his environment must have a larger place in his thinking and his planning. City planning, in order to take its rightful place among the great social movements of modern civilization, alongside of public education, health promotion, disease prevention, and social legislation, must completely emerge from the City Beautiful era of Daniel Burnham and the Columbian Exposition of 1893. City planners must think of the city not as an end in itself, but in terms of bigger and better citizens. Only in so far as our studies, our drawings, yes, even our dreams envisage a better society and a realization of the Good Life, will we be anything more than mere triflers who waste time decorating a rotten core. Only very recently in America has the blighting hand of rugged individualism been stayed, that sinister justification for exploitation, extortion, and greed that too long has characterized the Industrial Revolution. Social progress seems definitely attainable so long as the great movements of social amelioration and social reconstruction that emerged during the late Nineteenth and early Twentieth Centuries can be coördinated and driven on toward the common goal of social control, better social adjustments, and better human health and happiness. City planners and city planning must join this noble army; they must take their place and fulfill their destiny. Otherwise they will be merely pen and pencil artists.

## ONE MILLION BARRELS

(*Continued from page 267*)

gas or encroaching water. In deep wells pressures of 2000 to 3000 pounds per square inch are common, this pressure usually being about four-tenths of a pound per foot of depth. Handling of this oil and gas under high pressure requires care. When this problem is complicated by sand being produced with the oil and gas, accidents are liable to occur and a wild well may result.

A few years after the beginning of the petroleum business as an industry it was realized that the then existing means of transportation were totally inadequate to handle the traffic. At that time oil was placed in wooden barrels at the wells, hauled to the railroads or inland waterways by teams and thence by railroad or boat to its destination. Pipe lines were first built to transport the oil from the wells to the railroads or streams. Later they were built to carry the oil from the well to its final destination, the refinery. As the industry expanded the pipe lines followed, so that (*Concluded on page 286*)

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## ONE BILLION BARRELS

(*Concluded from page 284*)

today we have an underground transportation system for transporting practically all of the crude oil from the wells to the refineries. Also we have several pipe lines for carrying gasoline from the refineries to the large consuming areas. The oil is pumped through these lines at a velocity of about four miles per hour. At all times the lines contain 17,000,000 barrels of oil. This vast underground transportation system represents an investment of about $1,000,000,000.

In order that the several units of the petroleum industry may operate smoothly, it is necessary that a supply of crude oil, semi-refined oil and finished products be kept in storage. The necessary supply of crude oil is probably in the order of 150 million barrels. The actual amount of crude oil in storage is in the order of 350 million barrels. The maintenance of this supply is expensive, due to the actual cost of maintaining the storage, to loss by evaporation and deterioration, and to fire. The practice of storing natural gas in natural underground reservoirs from which the original gas had been extracted has been in use for a number of years. Recently experiments were begun on the storage of crude oil in natural underground reservoirs from which the original crude oil had been exhausted. The wells were conditioned and a large volume of natural gas was pumped into this reservoir and then the crude oil was forced in. When about 150,000 barrels had been placed in this storage, one of the wells was opened by an accident. This well flowed 100 barrels per hour, indicating that the oil could be recovered. More oil was placed in the reservoir so that at the last report available 580,000 barrels of oil and 600 million cubic feet of gas had been placed in this natural underground storage.

The petroleum industry is the second largest productive industry in the United States. It is only exceeded by agriculture. The annual value of its crude products, oil and gas at the well and natural gasoline at the point of origin, exceeds the value of our annual coal production at the mine. It is greater than the annual total metallic mineral production.

In 1929 the United States' production of crude oil was 1,007,000,000 barrels. The consumption during that year was *940 million barrels*. This consumption was at the rate of *323 gallons* per person. If we could replace the water in the Niagara River with oil it would take about nine hours for the 1929 production to flow over the Falls.

A question frequently asked is, "Where will the oil for future generations come from"? At present there are six visible sources of supply.

1. Undiscovered areas
2. Residue in depleted sands
3. Oil shales
4. By-products from coal
5. The Athabaska tar sands
6. More efficient methods of refining, such as improved cracking and hydrogenation.

I believe that these sources will provide the United States with its total oil requirements for many generations to come and provide these requirements at a reasonable price.

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# TECHNOLOGY MEN IN ACTION

CHECK-LIST OF THE ACTIVITIES AND ACHIEVEMENTS OF M.I.T. ALUMNI, OFFICERS, AND STUDENTS

*THIRTY thousand Technology Alumni march on! Each month The Review in terse notes presents a running history of their accomplishments, calls attention to the variety and extent of their activities. Each month brings new data to support what is now a truism — that Technology trains men to accomplish, lead, and coöperate in this scientific age.*

## *Did You Know That —*

¶ PIERRE S. DU PONT'90, Chairman of the Board of E. I. du Pont de Nemours, and GERARD SWOPE'95, President of the General Electric Company, are members of President Roosevelt's National Labor Board? The Board has become an independent body, which means that it can act directly, promptly, and effectively in case of violation of the self-organization and collective-bargaining rights of labor, without the findings of the Board being reviewed by the NRA's National Compliance Board. The National Labor Board has thereby taken on increased importance in the New Deal.

¶ CHARLES HAYDEN'90, of Hayden, Stone and Company, donated $150,000 to build the Hayden Planetarium in New York City?

¶ EDWARD P. WARNER'17, Editor of *Aviation*, and CHARLES G. ABBOT '94, Secretary of the Smithsonian Institution, are members of the National Advisory Committee for Aeronautics?

¶ LEWIS DOUGLAS'17 is Director of the Federal Budget?

¶ JOHN H. ALLEN'81, FRANK D. CHASE'81, PHILIP S. MORSE'84, and THEODORE W. ROBINSON'84 are members of the Legion of Honor (1884 group) of the American Institute of Mining and Metallurgical Engineers (four Technology men out of a total of 17)?

¶ HENRY HIBBARD'77 is a 50-year member of both the A. I. M. E. and the American Society of Mechanical Engineers and has the 50-year badge of both societies? As far as known, he is the only man living who has both of these badges.

¶ ABBÉ GEORGES LEMAITRE, great Belgian astronomer and recent recipient of the Mendel Medal, is a member of the Class of 1927?

¶ JOHN A. WALLS'99 has been elected President of the Pennsylvania Water and Power Company and the Safe Harbor Water Power Corporation?

¶ HAROLD V. COES'06 is Vice-President of the American Society of Mechanical Engineers, as well as a manager of the Society, a member of its Budgeting Policy Committee, and its representative on the Board of the United Engineering Trustees, Inc.?

¶ ANDREY A. POTTER'03, Dean of Purdue's Engineering School, has just retired as President of the A. S. M. E.?

¶ ERIC F. HODGINS'22, from 1922–1927 Managing Editor of The Technology Review, is Associate Editor of *Fortune*?

## *Technology in the Arts*

¶ PAUL GARDNER'17, one-time chief ballet dancer in Tech Show, is Director of the new four-million-dollar Nelson Art Museum in Kansas City.

¶ EDWIN H. BLASHFIELD'69, noted mural painter (he executed the murals in Walker Memorial), recently received the Gold Medal of the National Academy of Design for his distinguished services to the Fine Arts.

¶ IRVING FINEMAN'17 is the author of the novels "Hear, Ye Sons," "Lovers Must Learn," and "This Pure Young Man." He studied civil engineering at the Institute and is now Professor of English and American literature at Bennington College.

¶ SIDNEY B. WAUGH'27, *Prix de Rome* winner in 1929, had the prize exhibit (a slender glass fountain) in the "first salon devoted exclusively to American hand-made glass" (New York: March).

Technology architects are playing important rôles in the restoration of historic sites: SIDNEY T. STRICKLAND'05, at Plymouth, Mass.; WELLES BOSWORTH'89, at Versailles, France; and WILLIAM G. PERRY'07 and ANDREW H. HEPBURN'03 (of Perry, Shaw and Hepburn) at Williamsburg, Va.

## *A Tribute to Versatility*

¶ HAROLD M. MOTT-SMITH'93, artist for the General Electric Company at Schenectady, has had an unusually varied career, finding success in three different lines: art, music, and business. It is indeed rare in this day of specialists to find an individual with such catholic talents, applying them in turn or together in much the same spirit as did the Medieval men of talents. From the beginning, he was continually sketching and painting until he discovered that music was to have an equally important influence on his life. At the Institute, he embarked on a mechanical engineering course, changing to chemistry, and finally to architecture. For a while after leaving Technology, he turned to Paris and the arts. Then business became his chief interest and he gave his attention to investments, a process for drying milk, building and managing a factory. Again he has returned to art (when the musical urge interferes with everything else, he lends the cello); but he is still pulled in three directions. (A more complete account appears in class notes, page XI.)

## *Congratulations*

¶ To WALDEMAR LINDGREN, Professor Emeritus of Geology at M.I.T., on receiving the Penrose Medal, the highest honor of the Geological Society of America, at their meeting in Chicago in December. Dr. Lindgren is a former President of the Society and former Chief Geologist of the U. S. Geological Survey.

¶ To ARTHUR C. RUGE'33, for the development of a new instrument for recording directly the stresses set up in model structures by artificial earthquakes. See the February Review, page 176, for an account.

## *Milestones*

¶ ARTHUR D. LITTLE'85, on the occasion of his 70th birthday, was presented with a specially bound and inscribed volume of the Morse Collection of Japanese Potteries by his staff.

¶ ALBERT SAUVEUR'89, on the occasion of his 70th birthday, was given a testimonial dinner at the Hotel Commander in Cambridge. Dean HARRY E. CLIFFORD'86 of Harvard presided and addresses were made by J. A. MATHEWS and G. B. WATERHOUSE.

¶ HARRY W. TYLER'84, on his retirement as Secretary of the American

Association of University Professors, was highly commended for his leading part in the development and progress of the Association. "To him, more than to any other one man, that advance has been due."

¶ HOWARD J. C. MACDONALD '07, on completion of five years of service in Russia, was commended by the Assistant People's Commissar of Heavy Industry, as follows: "He has done much in the first Five-Year plan; in the Second he will do more, and we hope he will be with us for many more five-year plans. No man has aided us so much, and I personally will ask the government to accord him the high honor which in my opinion is so well merited by him."

## *Elections and Appointments*

¶ Professor HERVEY W. SHIMER, to the presidency of the M.I.T. Chapter of the American Association of University Professors.

¶ Professor WALTER H. NEWHOUSE, to the chairmanship of the program committee of the Society of Economic Geologists.

¶ WILLIAM B. THURBER '89 and ERWIN H. SCHELL '12, to membership in the Corporation of Simmons College, Boston.

¶ LOUIS A. SIMON '91, supervising architect of the United States Treasury Department.

¶ HENRY A. MORSS '93, President and Treasurer of Simplex Wire and Cable Company. Mr. Morss is Acting Treasurer of Technology.

¶ ARTHUR BALDWIN '96, President of the American Chamber of Commerce in Paris, France. Mr. Baldwin is connected with the International General Electric Company.

¶ WALTER SPEAR '97, acting chief engineer of the New York Water Supply.

¶ C. BURTON COTTING '00, Chairman of the Track Meet of the University Club of Boston.

¶ WARREN W. LOOMIS '05, superintendent of supplies for the city of Boston.

¶ NUGENT FALLON '06, district manager of the Home Owners' Loan Corporation for the New England States, New York, and New Jersey.

¶ MAYO D. HERSEY '09, former associate professor of engineering at M.I.T., lecturer in engineering at Brown University. Mr. Hersey is one of the best-known men in the field of frictional lubrication and has recently been in charge of one of the divisions of research of the Vacuum Oil Company.

¶ Major BYRON Q. JONES '10, pioneer Army aviator, head of the Army's air mail operations in New England.

¶ PORTER ADAMS '14, Airport Supervisor of the State of Vermont for the CWA. Mr. Adams is Acting President of Norwich University.

¶ WALTER D. BINGER '16, Deputy Commissioner of the Department of Sanitation in New York.

¶ JOHN T. MCNARY '18, Assistant Secretary to Mayor Mansfield of Boston and chief of the licensing bureau.

¶ DANIEL C. SAYRE '23, formerly a Review Contributing Editor, as an Associate on the editorial staff of *Fortune*.

¶ RALPH T. JOPE '28, to the Board of Governors of the University Club, Boston.

## *Books and Papers*

¶ By members of the Department of Chemistry and M.I.T. alumni, "Chemical Engineers' Handbook," 2,609 pages, McGraw-Hill Book Company. The book was edited by JOHN H. PERRY '23; four members of the Staff (THOMAS B. DREW '23, HOYT C. HOTTEL '24, WILLIAM H. MCADAMS '17, and THOMAS K. SHERWOOD '24) contributed 221 pages, the late WILLIAM P. RYAN '18 contributed 25 pages, and alumni contributed over 200 additional pages.

¶ By the Institute's Department of Economics, the second part of "Chapters in Economics." It contains four chapters by Professor DONALD S. TUCKER: "Problems of the Consumer: Utility," "Demand for Consumers' Goods: Subjective Value," "Rent," "Capital Invested in Land;" a chapter on transportation by Professor B. ALDEN THRESHER '20; a chapter by LINCOLN FAIRLEY, instructor, dealing with industrial relations and the Recovery Act, and a concluding chapter by Professor RALPH E. FREEMAN, Acting Head of the Department, on "International Financial Policies."

¶ By JAMES F. NORRIS, Professor of Chemistry at M.I.T., a paper on "The Measurement and Significance of Chemical Reactivity," at the Fifth National Organic Chemistry Symposium, held under the auspices of the Division of Organic Chemistry and the Cornell Section of the American Chemical Society.

¶ By the late FORRIS J. MOORE, Professor of Organic Chemistry at M.I.T. and revised by WILLIAM T. HALL '95, Associate Professor of Analytical Chemistry, a book entitled "Outlines of Organic Chemistry."

¶ WILLIAM D. COOLIDGE '96, Director of the research laboratories of the General Electric Company, Schenectady, N. Y., an address on "The Place of the Physicist in Industrial Research," at M.I.T., March 7. Dr. Coolidge is known for his work in developing high-voltage x-ray tubes, and is a term member of the Institute's Corporation.

¶ By CHARLES E. A. WINSLOW '98, a paper on "Construction and Equipment of the Pierce Laboratory," delivered at the meeting of the American Society of Heating and Ventilating Engineers in New York, February 5 to 9.

¶ By BASSETT JONES '99, a book on "Debt and Production," published by the John Day Company.

¶ JOHN MILLS '09, Director of Publications for the Bell Telephone Laboratories of New York, a book on "Signals and Speech in Electrical Communication." (See class notes for account.)

¶ By JOHN M. BIERER '10, an address on "Developments in Rubber Compounding During the Past Twenty Years," delivered at the January 12 meeting of the Northeastern and Rhode Island Sections of the American Chemical Society.

¶ By EDWARD R. SCHWARZ '23, a book on "Textiles and the Microscope," published by McGraw-Hill Book Company, New York. "The leading authority on textile microscopy, micrometry, and microanalysis in this country outlines in this volume in concise and usable form the results of his experience in the application of these sciences to textile research. It not only covers the fundamentals and the methods of other fields of microanalysis that he has found to be applicable to the textile field, but provides the technician and research worker with very complete techniques, many of them originated by the author. He modestly states, however, that he aims to stimulate the reader to carry on original work rather than to present him with all the minutiae of device and procedure." The author is assistant professor of textile technology at M.I.T., a fellow of the Textile Institute (England), and chairman of the abstracts committee and board of editors of the U. S. Institute for Textile Research. Professor Schwarz contributed a chapter on "Application of Optical Equipment" to "Textile Research: A Survey of Progress" published by the Technology Press in 1932, and he has also contributed articles and photographs to The Review.

¶ By J. RHYNE KILLIAN, JR., '26, a paper on the scope and value of

alumni work, delivered at Wellesley College, February 10.

*In the News*

¶ EDWARD C. HARWOOD, Assistant Professor of Military Science at M.I.T., in the Chicago *Economist* of March 2, for his feature article on "Value of the NRA in Promoting National Recovery." One of the most beneficial effects of the NRA has been in educating the business man and industrial executive, thereby bringing higher standards to the conduct of business.

¶ Professor DAVIS R. DEWEY, on his reëlection as Managing Editor of the *Journal* of the American Economic Association.

¶ GEORGE B. WATERHOUSE, Professor of Mining and Metallurgy, as director of a coöperative program of research under the auspices of the iron and steel industries and the Engineering Foundation. This program seeks to develop new alloy steels and alloys of the light metals. Two divisions of the study have been completed and published by the Foundation under the titles "Alloys of Iron and Molybdenum" and "Alloys of Iron and Silicon." A third dealing with alloys of iron and tungsten, which will include all steels and cast irons containing tungsten, will be published shortly. Professor Waterhouse was recently elected a director of the A. I. M. E.

¶ RALPH T. WALKER'11, President of the New York Chapter of the American Institute of Architects, for his suggestion to the advisory committee on city planning (New York) that a determination of the causes that make families move out of New York City should be one of the first considerations in city planning. "New York City is moving away from its center, moved as if by some centrifugal force," Mr. Walker said. "We must determine why this is. Is it because of a desire to move to a more ideal community? Is it the automobile? These factors will determine the solvency of property in the center of the city. Unless New York City is made just as fine a community as the outlying communities, it will continue to lose population. . . ."

¶ GORDON M. FAIR'16, Associate Professor of Sanitary Engineering at Harvard, on perfecting a new mechanical nose, the osmoscope, made to smell impurities in drinking water. An account of this device is given in the Trend of Affairs section of this issue, page 258.

¶ JOHN STACK'28, engineer at Langley Field, Va., for the National Advisory Committee for Aeronautics, for his discussion of a proposed airplane which, it is claimed, might fly 544 miles an hour and 121 miles over the world's record, using existing engines. The discussion is published in the first issue of the new *Journal* of the Aeronautical Sciences, whose Editor is Dr. Jerome C. Hunsaker'12, Head of M.I.T.'s Mechanical Engineering Department. An interesting account of other Technology men connected with the Institute of Aeronautical Sciences was published in the March Review, page 234.

¶ WILLIAM C. POTTER'97, head of the Guaranty Trust Company, for his expression of opinion on the permanent plan of Federal insurance of bank deposits, which he believes is unsound and "charged with grave possibilities of injury to the entire American banking system."

¶ KARL T. COMPTON, President of M.I.T., as one of the guests at the head table at the dinner in honor of his excellency, Alexander A. Troyanovsky, Soviet ambassador to the United States. The ambassador visited the Institute recently and attended a tea in the President's office. At the present time there are seven Soviet students enrolled here; in 1931, there were as many as 23 students registered.

## DEATHS

¶ ERNEST O. SALTMARSH'69, on December 16.

¶ JAMES M. HODGE'72, on February 24. Mr. Hodge supervised the construction at Big Stone Gap, where a roadbed was cut through one of the Blue Ridge Mountains for a railroad. He also superintended mining operations in Alaska and has been retired for 20 years.

¶ JAMES R. CHAPMAN'73, on January 12.

¶ JOSEPH W. HOMER'75, on February 25. Mr. Homer was an associate of Alexander Graham Bell and is credited with naming Bell's invention the "telephone."

¶ CHARLES H. SANDERS'76, on January 4.

¶ GEORGE A. MORTON'76, former general baggage, mail, and express agent of the New Haven Railroad, on March 7. Mr. Morton retired in September, 1930, after 55 years of service, 43 of them in the employ of the New Haven road. He began his railroad career in 1875 as advertising agent of the Boston and Albany Railroad, entering the employ of the New Haven road in 1887. He leaves a brother, a sister, wife of Giles Taintor'87, and a son, J. Burleigh Morton. — Mr. Morton's paternal grandfather was a justice of the Supreme Court of Massachusetts and twice Governor of the state; his mother's father was a representative in Congress from Massachusetts and was chairman of the Republican National Convention which nominated President Lincoln in 1860.

¶ A. WADSWORTH LONGFELLOW'78, noted architect and nephew of Henry Wadsworth Longfellow, on February 15. Among the structures he designed are the Semitic Museum at Harvard, the Phillips Brooks House, Cambridge, chemical laboratories at Harvard, dormitories at Radcliffe, the Oliver Wendell Holmes and the Abraham Lincoln schools in Boston, the Cambridge City Hall, and the Carnegie Library at Pittsburgh.

¶ ARTHUR P. ABBOTT'80, on January 31.

¶ GEORGE W. FARMER'86, in November.

¶ SOLOMON H. STIX'91, on January 10.

¶ FREDERIC H. BURNHAM'94, on October 19.

¶ HARRY S. DUCKWORTH'94, on January 22.

¶ EDWARD LEBER'95, on October 15.

¶ WALTER W. REED'95, on January 4. (See Class Notes for account.)

¶ RALPH S. WHITING'96, on August 22.

¶ HOWARD H. BURDICK'97, on January 12. (Brief account in Class Notes.)

¶ ARELI H. JACOBY'98, on February 23. Mr. Jacoby was principal of the Ashby High School and prominent in the dyestuffs and textile trades. In 1919 President Wilson named him technical advisor on dyestuffs and pharmaceutical products on the unofficial reparations commission in Paris.

¶ HORACE P. FARNHAM'99, on January 1.

¶ BERTHA BALLANTYNE HANCOCK (Mrs. James H.)'99, on November 16.

¶ WILLIAM C. SAUNDERS'00, in December.

¶ THAYER P. GATES'02, on January 1.

¶ JESSE S. JOSEPH'03, on October 11.

¶ EDWARD W. WASHBURN'05, of the Bureau of Standards in Washington, on February 6. For two years following his graduation, he was research associate in chemistry and physics, becoming a full Professor at M.I.T. He next became associated with the University of Illinois and in 1926 he came to the Bureau of Standards as

chief chemist. He was the author of "Introduction to the Principles of Physical Chemistry." (See Class Notes for more complete account.)

¶ ELIZABETH B. WILLMANN (Mrs. William F.)'09, on November 26.

¶ RAYMOND W. EGAN'10, former President of the Fay and Egan Company, on January 13. It was estimated that practically one-half of the new inventions being used in processes at the Fay and Egan Company now are credited to the ingenuity of Egan. Together with his brothers, he was recently engaged in forming a chemical company. He was known nationally in scientific fields. He was a member of the American Society of Mechanical Engineers and was an expert bridge player.

¶ WILLIAM P. CORBETT'21, on January 10. (See Class Notes for account.)

¶ JOHN B. MARSTON'31, on February 25.

¶ WILLIAM C. ADELSON'33, on January 12.

*COMPARATIVE SCHOLASTIC STANDINGS OF FRATERNITY AND DORMITORY UNDERGRADUATE GROUPS AT M.I.T.*
*(as of end of First Term, 1933–34)*

| *Comparative Standing (based on February '34 ratings)* | | *Increase over June '33* | *Increase over Feb. '33* |
|---|---|---|---|
| Fraternity Seniors | 3.28 | *0.23 | 0.01 |
| Dormitory Seniors | 3.51 | *0.04 | 0.05 |
| Fraternity Juniors | 2.98 | *0.16 | *0.10 |
| Dormitory Juniors | 3.00 | *0.30 | *0.29 |
| Fraternity Sophomores | 3.03 | *0.06 | 0.01 |
| Dormitory Sophomores | 3.16 | *0.16 | *0.11 |
| Fraternity Freshmen | 2.95 | 0.07 | 0.00 |
| Dormitory Freshmen | 3.26 | 0.07 | 0.10 |
| General Average (Fraternity) | 3.06 | *0.08 | *0.01 |
| General Average (Dormitory) | 3.24 | *0.10 | *0.05 |

*FRATERNITY SCHOLASTIC STANDINGS*

| *Comparative Standing of 25 Chapters (based on February '34 ratings)* | *Increase over June '33* | *Increase over Feb. '33* | *Comparative Standing of 25 Chapters over previous five-year period* | *Comparative Standing of Freshmen of 25 Chapters* | *Rating Feb. '34* | *Comparison with Chapter Rating* |
|---|---|---|---|---|---|---|
| 1. Alpha Kappa Pi 3.64 | ** | ** | 1. Phi Beta Delta | 1. Phi Delta Theta | 3.65 | +0.40 |
| 2. Phi Kappa Sigma 3.33 | *0.02 | 0.13 | 2. Alpha Kappa Pi | 2. Phi Mu Delta | 3.64 | +0.38 |
| 3. Beta Theta Pi 3.28 | *0.14 | *0.06 | 3. Kappa Sigma | 3. Sigma Alpha Epsilon | 3.53 | +0.39 |
| 4. Phi Mu Delta 3.26 | *0.04 | 0.196 | 4. Beta Theta Pi | 4. Theta Chi | 3.40 | +0.25 |
| 5. Phi Delta Theta 3.25 | 0.11 | 0.236 | 5. Sigma Alpha Epsilon | 5. Beta Theta Pi | 3.38 | +0.10 |
| 6. Kappa Sigma 3.24 | *0.12 | *0.04 | 6. Chi Phi | 6. Delta Psi | 3.18 | +0.17 |
| 7. Phi Gamma Delta 3.198 | *0.062 | 0.163 | 7. Phi Kappa Sigma | 7. Theta Delta Chi | 3.15 | +0.09 |
| 8. Chi Phi 3.197 | *0.233 | *0.313 | 8. Sigma Chi | 8. Phi Gamma Delta | 3.143 | −0.055 |
| GENERAL AVERAGE ALL UNDERGRADUATES 3.16 | *0.12 | *0.01 | | | | |
| 9. Phi Beta Delta 3.16 | *0.67 | *0.71 | 9. Phi Mu Delta | 9. Delta Upsilon | 3.135 | +0.211 |
| 10. Theta Chi 3.15 | 0.00 | 0.07 | 10. Theta Chi | 10. Sigma Nu | 3.12 | +0.173 |
| 11. Sigma Alpha Epsilon 3.14 | 0.10 | 0.11 | 11. Lambda Chi Alpha | 11. Chi Phi | 3.09 | −0.107 |
| 12. Theta Xi 3.08 | 0.057 | 0.28 | 12. Phi Gamma Delta | 12. Delta Kappa Epsilon | 3.06 | +0.09 |
| | | | | Kappa Sigma | 3.06 | −0.18 |
| AVERAGE ALL FRATERNITY MEN 3.06 | *0.08 | *0.01 | | GENERAL AVERAGE ALL FRESHMEN | 2.99 | |
| 13. Theta Delta Chi 3.06 | *0.10 | *0.03 | 13. Sigma Alpha Mu | 13. Phi Kappa Sigma | 2.98 | −0.35 |
| | | | | GENERAL AVERAGE FRATERNITY FRESHMEN | 2.95 | |
| 14. Delta Psi 3.01 | 0.33 | *0.01 | 14. Phi Delta Theta | 14. Phi Beta Epsilon | 2.95 | −0.005 |
| 15. Delta Kappa Epsilon 2.97 | 0.11 | *0.14 | 15. Sigma Nu | 15. Delta Tau Delta | 2.88 | −0.069 |
| 16. Phi Beta Epsilon 2.955 | *0.07 | *0.118 | 16. Theta Delta Chi | 16. Phi Beta Delta | 2.80 | −0.36 |
| 17. Delta Tau Delta 2.949 | *0.161 | 0.089 | 17. Alpha Tau Omega | 17. Phi Sigma Kappa | 2.67 | −0.24 |
| 18. Sigma Nu 2.947 | 0.007 | *0.063 | 18. Delta Upsilon | 18. Theta Xi | 2.61 | −0.47 |
| 19. Delta Upsilon 2.924 | *0.046 | *0.148 | 19. Phi Beta Epsilon | 19. Sigma Chi | 2.33 | −0.47 |
| 20. Lambda Chi Alpha 2.921 | *0.559 | *0.199 | 20. Delta Kappa Epsilon | 20. Phi Kappa | 2.17 | −0.64 |
| 21. Phi Sigma Kappa 2.91 | *0.33 | *0.23 | 21. Phi Sigma Kappa | 21. Lambda Chi Alpha | 2.14 | −0.781 |
| 22. Phi Kappa 2.81 | 0.29 | 0.52 | 22. Delta Tau Delta | 22. Alpha Tau Omega | 2.09 | −0.68 |
| 23. Sigma Chi 2.80 | *0.307 | *0.20 | 23. Theta Xi | 23. Sigma Alpha Mu | 1.98 | −0.71 |
| 24. Alpha Tau Omega 2.77 | *0.31 | *0.40 | 24. Delta Psi | 24. Alpha Kappa Pi | No Freshmen | |
| 25. Sigma Alpha Mu 2.69 | *0.37 | *0.16 | 25. Phi Kappa | | | |

*Decrease **Not Rated

# NEWS FROM THE CLUBS AND CLASSES

## CLUB NOTES

### *Technology Club of Chicago*

The annual election of officers was held at a dinner at the Medinah Athletic Club, 505 North Michigan Avenue, on the evening of February 27. Approximately 35 members were present. In the absence of President Cooley, Vice-President Gordon Proudfoot presided. The following officers were elected: President, Ross D. Sampson '13; Vice-President in charge of social activities and entertainment, H. W. Kochs '24; Vice-President in charge of membership, Joel I. Connolly '16; Vice-President in charge of general activities, Gordon M. Proudfoot '04; Vice-President in charge of employment, N. H. Defoe '25; Vice-President in charge of publicity, Henry F. Culver '23; Treasurer, J. B. Elliott '25; and Secretary, E. G. Farrand '21.

After the election of officers the members heard a very entertaining talk by Robert E. Wilson '16 on "The Evolution of Weather." Mr. Wilson outlined very interestingly the influence that mountains, bodies of water, clouds, snow, and glaciers have on climate in the various parts of the world. He also outlined the change in climate which has resulted from geological changes over the past several million years and forecasted what the probable changes in climate would be over the next few million years. Mr. Wilson took pains to point out that anyone who is going into the matter of weather forecasting has a much better chance for success if he spreads his estimate over several million years rather than trying to bring it down to lengths of time which affect our daily life. Mr. Wilson claimed that the study of the weather was only a hobby with him but from his knowledge of the subject, it is evident that he could easily be classified as an expert.

Following the speaker of the evening, the club was entertained by "Captain Dan," who is styled as radio's most famous dialectician. "Captain Dan" told stories in various dialects and explained how he could effect changes from one dialect to another. His stories kept the club members in good spirits for a quarter of an hour.

As indicated above, the Chicago Club is in for a new deal. President Cooley has left the Chicago district, having accepted a position with the Hiram Walker Company in Peoria, Ill., and the Secretary is soon to move to New York with the headquarters office of the Colgate-Palmolive-Peet Company. The new President has an interested corps of officers and he has plans for stimulating real activity and interest, both in the club's contacts with individual members of this district and also in the Club's relations with the Institute.

Several of the members of the Chicago Club have received an invitation to have dinner with President Compton on March 13 to discuss ways in which the Chicago Club may coöperate more closely with the work of the Institute. We are looking forward to President Compton's visit.

The new Secretary's address is c/o United Conveyor Corporation, 37 West Van Buren Street, Chicago. — WINFIELD I. MCNEILL '17, *Retiring Secretary*, Colgate-Palmolive-Peet Company, 919 North Michigan Avenue, Chicago, Ill.

### *Technology Club of New York*

Since the last notes, the club has been fairly alive with events. On January 18, at the time the American Society of Civil Engineers was holding its Convention here, a brief notice in its Convention program drew 12 Tech Alumni to a luncheon at the club. Let all you engineers who might come to New York next year make a mental note to be at the next luncheon. We plan to make it an annual event.

Class luncheons are booming along. One would think, to hear some of these chaps talk, that the only purpose for a class luncheon was to exhibit, with proper pride, photographs of Junior, and his little brothers and sisters. But then, who doesn't like to? (Optimistic note: Wait till 1936!) On February 8, 15, and 29, the Classes of '04, '19, and '01 were on hand. Many more are scheduled for next month. On the evening of the Milrose Games, members of '23, '24, and '25 gathered at the festive board and mixed up a little of the terpsichorean art with dinner.

The monthly Open House night drew an appreciative audience to hear Mr. Ephraim Freedman, Director of R. H. Macy's Bureau of Standards, talk on "Testing of Merchandise." The personnel of Mr. Freedman's department, numbering more than 50, is charged with seeing that the big store gets what it pays for. (After hearing all about it, we are informed that more than a few Tech men applied for the job of liquor and wine testers. Now we wonder?) The why and the wherefore of testing was an engrossing story, and, aided and abetted by beer and pretzels, members voted the evening one of the best in a long time.

The weekly Monday night bridge tournaments are swinging along at a great rate. We may not be able to predict the winner at this early date, but 'ware the Greek! — MILTON MALE '29, *Assistant Treasurer*, 71 Broadway, New York, N. Y. Leland D. Wilson '20, *Secretary*.

### *The M. I. T. Club of Western Pennsylvania*

On February 13, 1934, the club assembled for a monthly dinner meeting at the University Club, Pittsburgh, Pa. Frank J. Chesterman '05 reported on the last meeting of the Institute Corporation and told us of current affairs in Boston.

Our guest speaker was Mr. Benjamin R. Marshall, newly appointed Superintendent of Police of the City of Pittsburgh. His topic was "Crime Prevention and Law Enforcement." Mr. Marshall is particularly qualified to speak on this subject as he has been connected with the Pittsburgh Police force for over 25 years. He started at the bottom as a sub patrolman in 1908 and has worked his way up through various positions, becoming Assistant Superintendent of Police in 1930 and assuming his present duties in January of this year. Mr. Marshall's address was excellent and very timely in view of the publicity now being given to major crimes such as kidnapping. Of most interest to our members, however, were the various human interest stories which he told us of his own experiences in detective work and in the apprehension of criminals. About two dozen members were in attendance. — C. M. BOARDMAN '25, *Assistant Secretary*, Duquesne Light Company, Pittsburgh, Pa.

### *Indiana Association of the M. I. T.*

The Indiana club held a meeting on January 22 for no special reason other than good fellowship and entertainment. We had a nice turnout of about 15 men, and after an excellent dinner at the Sheffield Inn, with much conversation and swapping of yarns, were most interestingly entertained by D. J. Angus.

Mr. Angus is well known to electrical engineers and central station men as an outstanding engineer and designer of electrical recording instruments of all types. Although he does his work at Esterline-Angus Company of this city, his hobbies take him into far and remote places. Having no mean skill as a photographer, he comes back from his pilgrimages with thousands of feet of movie films, which are not only beautiful from the standpoint of photographic art but also are very intensely interesting and instructive. He not only knows how to take pictures but, what is more important, what to take.

Mr. Angus took us on a personally conducted tour through Kansas, Colorado, and Wyoming, and through the Yellowstone Park, not as the ordinary tourist sees it but as the country would be viewed by a geologist and engineer, and not forgetting the artist. His dialogue ran along with the pictures, enlarging upon and explaining the various features. It was one of the most interesting evening's entertainments we have ever had the pleasure of enjoying. — E. M. MCNALLY '18, *Secretary*, The Barbasol Company, Box 1178, Indianapolis, Ind.

## *Technology Club of Toledo*

At the recent meeting of the club the following officers were elected for the year 1934: Hugh T. Griswold '29, President; Archibald Gardner '02, Vice-President; Arthur R. Smith, Jr. '28, Secretary-Treasurer, Hettrick Manufacturing Company, Toledo.

At this meeting the club was entertained by Herbert A. Barnby, retiring President of the club, at his laboratory at the Owens-Illinois Glass Company. Mr. Barnby gave an explanation of the developments of the New Uses and Research Division. This division is responsible for working out the problems of properly sealing all sorts of materials in glass containers and has developed some startling improvements in this line. A trip through the Closure Service Company was part of the program. Mr. Barnby was assisted by Hugh T. Griswold, our new President. — WILLIAM F. DONOVAN, JR., *Retiring Secretary*, 305 Spitzer Building, Toledo, Ohio.

## *Technology Club of Puget Sound*

Technology men in the Puget Sound region joined with alumni of other schools and colleges in celebrating College Night at the University of Washington on January 30. The event, formerly held annually, was revived to celebrate the anniversary of the establishment of the University by the territorial legislature in 1861. Several thousand college men assembled to join in the fun of the program.

Preceding the celebration a dinner was held at Hotel Meany in the University district, which was attended by the following men: Clancey M. Lewis, C. E. Lasher, Joseph Daniels, E. O. Eastwood, L. A. Wallon, J. P. Newell, W. A. Gleason, R. G. Tyler, J. L. McAllen, W. Scott Matheson, G. J. Ackerman, Harvey G. Schwarz, H. H. Whithed, E. W. Rudow, J. W. Pratt, and H. K. Moritz.

Greetings were extended to the Wellesley women who were reunioning in another part of the hotel, and courtesies were exchanged with University of Pennsylvania men in an adjacent dining room. The Puget Sound alumni will be glad to learn of any men from the Institute who are likely to pass through Seattle in the near future. — JOSEPH DANIELS '05, *Secretary*, University of Washington, Seattle, Wash.

## *Technology Club of Hartford*

This brave little group has had three meetings so far this year, with an average attendance of over 40. That is very good indeed for us, and is to be ascribed less to the tepid notices poured forth by the Secretary than to an unaccountable increase in the gullibility of the members.

However, so far there have been scarcely any riots against the government. No justification for a riot could be found in the most entertaining talk of Hiram Percy Maxim '86, who spoke on November 3 on the proposition that intelligent beings exist on Mars. That was one of the most interesting evenings that we have had, and the Maxim gift of expression, complemented by a globe showing Mars' most prominent features, brought us material for conversation that gives fine promise of surviving the winter.

No riots were inspired on December 8 either. We had Professor William B. Bailey, economist of the Travelers Insurance Company, who brought us all an improved perspective of the times we are passing through (we hope) and of the possible significance of many things that are daily in the news.

But we might have had a riot on January 23. That night we met at the Heublein Hotel for beer and sandwiches, then went over and bowled for a couple of hours, and then returned to Heublein's Rathskellar for a golden buck supper. As a matter of recorded fact (indelibly recorded in the memory of the participants) there was not enough to eat and not enough beer — at first. Disorder was averted by the appearance of large trays carrying beer in pitchers, and with the aid of George Mangurian '28 at the piano and Ferrari Ward '26 up on the table operating his accordion, attention was successfully diverted from incompetence in high places. Most of us were in bed by midnight.

After all that we are looking forward with impatient longing to the talk on Gyroscopic Stabilizers being gotten up by the New Haven Club for the last of February. — THOMAS D. GREEN '26, *Secretary*, 215 North Quaker Lane, West Hartford, Conn.

## *Technology Club of Panama*

Notice came from Professor Locke that Gorham Dana '91 and Mrs. Dana of Boston were taking a round-the-world tour on the Dollar Steamer, *President Pierce*, and were due to visit the Panama Canal on February 2. When their steamer arrived at Balboa, I was on the dock to meet them, and after introducing them to a Planter's Punch at the Century Club, I guided them into Panama City. They had been through here before and so were quite familiar with Panama and the Canal Zone. Later we met by appointment and I had the pleasure of having them for supper at my house and they got a glimpse of how Americans live in this part of the world. Mr. Dana is still interested in Technology affairs. When I told him we were expecting a visit from President Compton, he recalled having met President Compton at a '91 class reunion and was most enthusiastic in singing his praises. I invited Mr. and Mrs. Dana to stay over and help receive President Compton and they wanted to, but they had to continue their cruise and so they sailed away the same evening, their steamer headed for the Pacific, leaving the remembrance of their delightful visit.

President and Mrs. Compton arrived on the fifth of February and their steamer stayed in port only one day, entirely too short a time to see all the wonderful things we have to show here in Panama and the Canal Zone, but we showed them all we could in such a short space of time, rushed them from place to place, and did our best to make their stay interesting. By we I mean Major Covell '23, mainly, for he arranged all the details and personally conducted our party the whole day. The Major claims he has "scooped" me on the news and has already sent the complete story to The Review, so no doubt under the '23 class notes may be found a clever and interesting description of the Comptons' visit here. Major Covell is the Assistant Engineer of Maintenance of the Panama Canal, supervises nearly all the Division and Sections of the Canal, and is thoroughly familiar with the details of all work here; it would be hard to find a more pleasant and competent guide. Fortunately, we had a most pleasant and delightful day, ideal for sightseeing.

As soon as I received word from Dr. Compton about his visit, I conferred with Major Covell and he sent the following message to Dr. Compton, through the Port Captain, Cristobal: "Welcome to the Canal Zone. We will meet you and Mrs. Compton at the boat not later than eight A.M., Monday, February 5. If satisfactory to you, we would like to show you the Gatun Locks and Spillway, catch the morning train for the Pacific side, and inspect the Madden Dam. For the afternoon, Mrs. Covell has planned lunch for us, and about three P.M., a number of the M. I. T. alumni would like to be able to see you." So as to be on hand and hold our guests, I took the special 2:30 A.M. newspaper *Scooter* from Panama and watched the Compton's steamer, the *Kungsholm*, come into Cristobal early in the morning of the fifth, and had breakfast with the agent of the Swedish Line, Captain Fenton, and the first officer on board the *Kungsholm*, before many of the passengers were up. Major Covell flew over from Albrook Field with Captain Zane, and soon we had met Dr. and Mrs. Compton and were on our way sightseeing as arranged by the Major. We first drove by the Cristobal High School, recently completed modern school for Canal Zone students, and then drove to the Gatun Locks where we watched from the Control Tower a steamer put through the locks. Then we rode over to the Spillway, which controls the level of the water in Gatun Lake, where they opened up one of the gates to show the water rushing over the spillway and into the lower Chagres River, as it is done when, as sometimes happens during the rainy season, there is too much water in Gatun Lake. Sometimes several of the spillway gates have to be opened at one time in order to lower the lake level. It is quite an interesting sight to see the water rushing down the slope of the spillway, smashing into the big concrete block baffles at the bottom, and dashing spray high in the air; and is a sight only seen by a few lucky tourists and distinguished guests for whom this special show, as on this occasion, is staged.

We then took the train to Gamboa, where a launch was waiting for us, and we went through probably the most interesting part of the Canal, passing across the Chagres River, where it comes into the Canal, past the Canal Zone Penitentiary, through the famous Culebra Cut, now called Guillard Cut, between Gold Hill and Contractor's Hill, to Praiso, the headquarters of the Dredging Division of the Panama Canal. From here we motored out to Madden Dam, which, when completed, will control the flood periods of the upper Chagres River and eliminate the necessity of using the gates of the Gatun Spillway. Between cliffs of solid rock, American contractors are building a big dam to form a reservoir of about 22 billion cubic feet of water. All construction work is interesting and this is especially so because of its gigantic size. It is an impressive sight. After inspecting the dam, we drove to Balboa Heights and had lunch with Major and Mrs. Covell, who is a real expert in the culinary art, and we had one of the best real tropical lunches I have ever had. After lunch we went to the Century Club, visiting my home on the way, and there we met other M. I. T. men: Eduardo Icaza '23, Major H. L. Robb '21, Jorje I. Barnett '30. The train back to Cristobal and Colon leaves at 4:45 P.M. from Panama Station, so our meeting was not a very long one. We made it informal, no one made any speeches, and we were all sorry when the time came to say good-by. We all enjoyed meeting Dr. and Mrs. Compton; they are wonderful people and ideal guests, so interested in everything. Our only regret was that their stay was too short. Dr. Compton lugged a great big camera with him and took lots of pictures, no doubt all of them good, since he took them in the latest, most scientific way. — MEADE BOLTON '16, *President*, Box 23, Balboa Heights, Panama, Canal Zone.

## CLASS NOTES

### 1877

The Secretary is glad to be able to publish here the following letters received from classmates:

From Henry Carter in Honolulu: "Your letter of January 9 was forwarded to me here, where I have been for the last two weeks. This is my 14th annual visit to Honolulu. It is the best winter resort I have found. I get the Boston *Herald*, so I was informed of Decatur's death. A few days after our annual class dinner in June, I sailed my boat down to Addison, Maine, where I have a summer cottage. Stayed there until the middle of September — fishing, yachting, bathing, and motoring, and then sailed the boat back to Quincy where I laid the boat up for the winter. Missed my annual hunting trip to Saskatchewan, where I have been every year for 25 years. The duck shooting promised to be very poor, owing to drought, and consequently poor hatch of ducks and geese. This, combined with a touch of rheumatism, made me abandon the trip. In November, went to my shooting club at Santee, S. C., where I shot for two weeks at ducks, snipe, and quail. The last of December I started for this place. Took it leisurely, stopping in New York, New Orleans, and Hollywood, and reached here January 15. Expect to start home April 16 and shall stop over at Port Aransas in Texas for some tarpon fishing. I wonder what would be our old professor of logic, Professor Harrison's reaction to the various CCC, XYZ, PWA designed to squander the nation back to prosperity."

From Arthur L. Plimpton in West Roxbury: "Referring to your letter of January 9 last asking for something that might be of interest to the members of '77, I will state that on the first of this year I was retired from the Boston Elevated Railway Company with which and its predecessors I had been connected for 47 years. I find it quite a change to be free to do what I want to do every day.

"They say everyone should have a hobby. I have found something which for me is extremely fascinating and is a great diversion from reading or anything else. Sometime ago I became interested in whittling and my hobby is the carving of chains. I am sending you a sample consisting of three links. My standard chain consists of 20 links. No special outfit is needed to do this work. A pocket knife and some sand paper does the trick. Anyone can do it. First the links are carefully marked out with a template on the stick of soft pine, then the link is cut out and separated. Next it is shaped with knife and lastly is sandpapered. I thought you might be interested. I shall not attend the Alumni Dinner. I do not go out much evenings this cold weather. Please remember me to any of the classmates who may be there."

The Secretary has also received word from Francis Bacon in Turkey saying he is well and busy, delving rather exclusively in "what the Greeks did in the best period." He sent best wishes to all the class. — BELVIN T. WILLISTON, *Secretary*, 3 Monmouth Street, Somerville, Mass.

### 1883

Those of us who attended President Compton's luncheon at the time of our Fiftieth Anniversary reunion will be interested to learn that our classmate, Charles A. Coolidge, has been appointed to the Commission of Fine Arts, to fill the vacancy caused by the death of John L. Mauran. The Boston papers give the following account of Mr. Coolidge's achievements and the Class of '83 naturally feels proud of having him among our membership.

"Word was received here last night of the appointment of Charles A. Coolidge, prominent Boston architect, to the commission of fine arts, to fill the vacancy caused by the recent death of John L. Mauran. Mr. Coolidge, a Republican, has an international reputation. He makes his home at 82 Marlboro Street, and maintains a summer residence at Prides Crossing.

"Among the buildings he has designed is the original group of Stanford University, at Palo Alto, Calif., the Ames Building in Boston, the new Harvard Medical School buildings, the Chicago Public Library, the Chicago Art Institute, the freshman halls of Harvard University, the Merchants National Bank, Vanderbilt University, and many other public buildings and colleges in various parts of the country.

"He has been identified with the firms of Chepley, Rutan and Coolidge, Coolidge and Shattuck, now Coolidge, Shepley, Bullfinch and Abbott, and Coolidge and Hodgdon, of Chicago.

"He was made a chevalier of the Legion of Honor of the French government in 1900. He is a Harvard graduate, being a member of the Class of 1881 and studied architecture at M. I. T. for two years."

The Secretary is glad to publish the following letters recently received from classmates. George Underwood writes: "I have received your 'duns' for news but I am leading such an uneventful existence that I have none to send you. I went to the Annual Tech Dinner last evening and was the only representative of '83. The dinner was held at the Walker Memorial and was very good and the speakers interesting. I sat at a table directly below the speakers and at the table were: Chase, Dearborn, Gill, Fitch, and Puffer of '84 and two men whose names I do not know. There were two vacant chairs so I suppose some had bought tickets who did not attend.

"I have my usual health and while Grace had improved after her visit to Dr. Locke in October, she had a fall just before Christmas from the effects of which she has not fully recovered. We hope when spring comes and she can get outdoors that she will begin to improve again. Grace joins with me in sending regards to Gussie and yourself."

G. H. Bryant writes: "I have received your card asking for news of the men of '83. Regarding myself, there is not much to say except that Mrs. Bryant and I are spending the winter in Florida; and, in view of reports we read of extreme cold weather in the North, we are mighty glad to be here. We left home early in January, taking the train to Savannah and sending our car to that point by freight. Hence we motored to this point and shall probably stay here until about March 1. Then we plan to go to Palm Beach and vicinity for a few days; from there across the state to Tampa and St. Petersburg, and then motor leisurely north, getting home sometime in April. The weather here has been agreeable during most of our stay so far, with the temperature ranging frnm 50° to 70°. Best regards to Mrs. Wesson."

Julien Vose writes: "We have moved from the Copley-Plaza, where we have lived for the past seven years, to the Hotel Fensgate, 534 Beacon Street. We are just across the Charles River from Technology. I am enclosing a card which will show you the location of our apartment on the tenth floor. We have a grand view overlooking the Charles River. —

*1883 Continued*

We are having a blizzard here today which is the worst since 1888, so they have just told us over the radio. The snow is over a foot deep. — For several years past I have taken a short trip South with Dr. Charles H. Tozier this time of year. Next week we are going to Haiti to take a few pictures. The Doc. takes natural color stills, while I am interested in movies. I shall have quite a few movies to show you at the next reunion. I have slides of all the old boys as they looked at Hyannisport and you have them as they were 50 years ago."

Mark Lawton writes: "I have your card, and I haven't very much to say. Mrs. Lawton has had pneumonia again, and was sick from the day after Christmas; she is just getting outdoors now, so that I have been very quiet indeed this winter. I think business is looking up some, and I hope things are going well with you." — DAVID WESSON, *Secretary*, 111 South Mountain Avenue, Montclair, N. J.

## 1885

The brief notice of the death of Nat Robertson in the February issue was another hard shock for all of us. Although he passed away in the middle of December, we did not get the news until shortly before The Review was to go to press and there was only opportunity for the brief announcement. Nat's presence was always a feature of our reunions and he never missed one. He was a joy to know and we always looked forward to seeing him with the keen anticipation of brother for brother. He was one of the choice spirits that has made '85 what it is. He needs no visible marker to his memory; his spirit will always be with us.

Nat was born in Boston. After graduation he went West to work and returned in 1889 to enter the employ of the old Lackawanna Iron and Steel Company in Scranton, Pa. At the time of the formation of the Wyoming Shovel Works in 1893, he left the employ of the steel company and was elected Secretary and Treasurer of the shovel works upon its incorporation. In 1918 he was elected President and general manager, serving in that position until the time of his death.

He also was a director of the Ames Baldwin Wyoming Company, Parkersburg, West Va. In 1893 Mr. Robertson was married to Mary Belin, the daughter of Mr. and Mrs. Henry Belin, Jr., of Scranton, and since that time resided at 621 Clay Avenue, Scranton, and at Waverly. Surviving are his widow; three sons, Henry Belin Robertson, Wilmington, Del., Nathaniel G. Robertson, Jr., Scranton, President of the Scranton Lace Company, and Richard A. Robertson, New York; a grandson, Nathaniel G. Robertson, III, and a granddaughter, Joan Robertson, Waverly.

The Secretary has received a number of letters from classmates in appreciation of Everett Morss and of his loss to the Institute and to the class. His dearest wish was to have us all at "The Rocks," at Manchester, next June, to celebrate our 50th anniversary. The glow in his heart was perceptible whenever reference was made to the 1930 reunion, and his desire for a repetition of that happy time was at least equal to ours. What arrangements we shall make for next year we do not know. Many of those whose life has brought glory to our class have passed on, and it devolves on us to preserve the tradition and make the 50th a historic memory. The Secretary will be glad to have suggestions relative to the celebration of this event if any occur to you.

It must have been very soon after he left Tech that Arthur Doane went out to Wyoming with the Union Pacific Coal Company. For the greater part of the time he lived in Cheyenne, and it isn't likely he has seen a classmate except the Secretary, who was there during the war, since he went there. Well, he was retired last year and has come back to Middleboro, his birthplace, to live. His address is 43 Oak Street.

By a curious coincidence, both W. D. Fuller and Cutter are living within a few blocks of each other at Inglewood, Calif. In a letter recently received from Fuller, he says: "Just before sitting down to write, I was thinking of the fellows I have met — those of our class or partly so — and they are very few. I used to see Greeley once in a while in Chicago during the '90's, and also ran across Fiske; then I saw you and A. C. Fuller in 1905, and some years later du Pont called on me in Los Angeles. When I was in Texas, Bedlow called me up from Dallas one day, he being with the Telephone Company there, but I did not see him; I believe that these names complete the score till I ran on to Cutter here in Inglewood.

"Cutter and I live only a few blocks from each other and we visit back and forth every few days. Now and then we drag our old frames over to the beach at Playa del Rey, some six miles away, cook a few sausages down on the sand, and talk over old times, living for a little in the reflected glory of our classmates who have made names for themselves, and then come home, mighty tired, but feeling quite puffed up over the fact that, while we are 70 plus, we can still walk 12 miles and live to tell of it. Cutter has one son, a big giant of a fellow, living right beside him, and a mighty fine daughter, both married and making him a grandpa four times.

"I have been trying to kid myself into the idea of attending the Fiftieth Reunion; I believe that Inglewood is about 3,300 miles from Boston and I think I can make it by walking the last 3,200."

We have had a notice from the Alumni Office that Alex McKim, who has been in Europe for several years past, is now located at 238 Main Street, Cambridge, Mass. It will be a great pleasure to see him again at our mass meetings, and he will have some interesting tales to tell of his recent wanderings.

Wallis is now living at Richmond, Vt. He says it will take something serious to keep him from our Fiftieth Reunion. He says he lives right on the edge of the Winooski River and gives the Secretary a cordial invitation to drop in!

Nearly 200 members of the faculty of the Institute attended a luncheon in Walker Memorial, February 12, in honor of Al Merrill, who for 27 years has been Secretary of the Faculty of the Institute and is retiring as Professor Emeritus. Two years after his graduation he was made an instructor of the Mechanical Engineering Department. During this time he was engaged as an assistant in the department. He wrote a book on Mechanism with Professor Schwamb which has been widely used as a text, having passed through many editions and revisions.

Arthur and Mrs. Little left for Palm Beach, February 15, to remain until about April 1. Fiske left for Nassau about the same time. He will be there about a month. The recent death of King Albert of Belgium reminds us that Reddy was Belgian Consul in Boston for a number of years.

Artie Plaisted says he isn't as frisky as he used to be when he and Al McKim did that *pas de deux* at a class dinner during our adolescent years at Tech. It was no surprise to learn that he has been making plans for a neediest colony in some conspicuous location, but the sub-zero temperatures have temporarily discouraged him.

Charlie Brown had a birthday February 1 and with it a surprise visit from Fiske, Little, and the Secretary. It was no surprise for Mrs. Brown, however, as a dinner party was awaiting the visitors. Charles was in fine fettle for one of his advanced years. He didn't say how old he was, but he acted like 60! He makes the trip from Salem to Boston at least once a week. — I. W. LITCHFIELD, *Secretary*, 165 Winchester Street, Brookline, Mass.

## 1889

Dame died December 31 last. The *Wall Street Journal* printed the following account of his life: "The North American Company's flag hung at half mast Saturday at 60 Broadway as the associates of Frank Libby Dame mourned his passing late the evening before. A career of more than 45 years devoted to the development of the electric industry since pioneering days was brought abruptly to a close by a stroke of apoplexy following a slight illness during the previous week. At the time of his death and for a number of years before, Mr. Dame was at various times chairman of the board, President, and member of the executive committee of the North American Company, an organization which owes its present strength in the industry to the wisdom of his direction. Mr. Dame's leadership of the North American Company during the past 13 years was featured by a kindliness which won for him affection and support. It is a coincidence that Mr. Dame's career, which embraced all activities of the public utility industry, including construction, development, operating, financing, and management, closely paralleled that of the company he so long headed. He began as an electrical engineer in September, 1889, and the North American Company was organized June

*1899 Continued*

14, 1890, but it was not until 1920 that Mr. Dame became associated with the company. Born in Boston, Mass., March 21, 1867, son of Seth T. and Josephine R. (Libby) Dame, he was a descendant of John Dame, who settled in Dover, N. H., in 1633, and of John Libby, who settled in Scarborough, Me., in 1630.

"After graduating from the English High School, Boston, in 1885, he attended M. I. T. and graduated in 1889 with a bachelor of science degree in electrical engineering. Mr. Dame's first job after leaving college was in the testing room of the Westinghouse Electric Company in Pittsburgh. His first construction assignment was in Newburgh, N. Y., and late in 1889 he was sent to Portland, Ore., as the company's local engineer. Within a year he was taking an active part in the management of public utility properties. Later he became general superintendent of the Vancouver (B. C.) Railway and Light Company, and in 1891 returned to Portland as engineer in the lighting department of the Northwest Thomson-Houston Company. For two years he also engaged in street railway construction and the replacement of equipment in various cities in Oregon and Washington. In 1893 Mr. Dame became general manager of the Seattle Consolidated Street Railway and later general superintendent of the Tacoma Railway and Motor Company, taking part in the reorganization of several companies under the name of Tacoma Railways Company. He continued in charge of this property until 1901 when he became general manager of the Union Electric Company of Dubuque, Iowa. His success in the management of these properties led to his appointment by the General Electric Company in 1903 as engineer of its committee on local companies, supervising the operation of public utility companies in various parts of the United States then controlled by the General Electric Company. His active management duties entailed traveling some 50,000 miles a year. In 1909 Mr. Dame became Vice-President of Electric Bond and Share Company. He severed his connection with that company in 1912 and later became President of Central States Electric Corporation. During the World War he served in the facilities division of the War Industries Board. In 1920 Mr. Dame became Vice-President of the North American Company and six months later, in 1921, was elected President. On April 25, 1932, Mr. Dame was elected chairman of the board of the North American company. However, he continued active service in a full-time capacity. His successor as President was Edwin Gruhl, who for years, while Mr. Dame was President, had been Vice-President and general manager. Mr. Gruhl died suddenly on January 22, 1933, at the age of 47. Then Mr. Dame was again elected President, retaining the office of chairman of the board. Mr. Dame was also chairman of the board of North American Edison Company, the principal subsidiary of the North American Company, since the organization of the former company in 1932. He was chairman of the board of the Cleveland Electric Illuminating Company and Wired Radio, Inc., President of Western Power Corporation, and an officer or director of other public utility companies included in the North American group, and he was a director of companies in which the North American Company has substantial interests, including the Detroit Edison Company, Pacific Gas and Electric Company, and North American Light and Power Company. He was a member of the board of Trustees of the Edison Electric Institute.

"Mr. Dame was married in New York on January 13, 1906, to Mary Elizabeth Elvidge, daughter of Mr. and Mrs. George Henry Elvidge, and their children are Frank Elvidge Dame, Edward Libby Dame, and Robert Orville Dame. His home was at 79 Oxford Boulevard, Garden City, L. I. He was a member of the Bankers, Engineers, Cherry Valley, Recess, and Technology Clubs."

Arthur E. Truesdell died at the New England Baptist Hospital, Boston, October 25 last, following an operation for stone in the kidney. He was born in West Stockbridge, Mass., September 10, 1867, son of Hayden M. and Rhoda (Spaulding) Truesdell and received his early education in the schools of that town and at Williams Academy, Stockbridge. He married Elizabeth G. Leonard of Newton, Mass., December 3, 1891, who, with one son, Leonard W., of Providence, R. I., survives. During his active life he was employed at Sioux City, Iowa, Newark, N. J., Norfolk, Va., Pittsfield and Adams, Mass., Rutland and Saint Albans, Vt. Since he retired from business about ten years ago, he had made his home at 21 Arlington Street, Pittsfield, Mass.—Mrs. Truesdell, executrix of his estate, wishes to dispose of twelve M. I. T., blue dinner-plates, bearing Dr. Stratton's autograph upon the bottom. Her address is 21 Arlington Street, Pittsfield.

William H. Dow was reëlected President of the Portland (Maine) Society of Natural History at the annual meeting in the society's headquarters on Elm Street.

A testimonial dinner to Professor Albert Sauveur in honor of his 70th birthday was held on December 27 at the Hotel Commander in Cambridge. The date fell within the three-day meeting period of the American Association for the Advancement of Science which was held this winter in Boston. — WALTER H. KILHAM, *Secretary*, 126 Newbury Street, Boston, Mass.

## 1890

At the Alumni Dinner, February 17, at the Walker Memorial, the following members of Class of '90 were present: Burley, Goodwin, Kendall, Packard, Rogers, Sherman, and Tilson.

Col. Henry M. Waite, Deputy Administrator of Public Works at Washington, had a luncheon conference in Boston, Friday, February 16, with Governor Ely, when they talked over Bond Issue technicalities which have stood in the way of starting construction of the numerous PWA projects in Massachusetts.

Darragh deLancey was not able to be present at our Tech Dinner the 17th, as he had to give a talk on "Greece" at Phillips-Andover Academy, at Andover that night.

We regret to receive word that Harry A. Kennicott, who had been an invalid for ten years, died at his home 812 Park Ave., Nebraska City, Neb. Harry was one of the few men of our class who has always replied to class notices, whether he could be present or not.

We have just received word that Charles Hayden left early in February for Africa, and will not be home until the last of March. — GEORGE L. GILMORE, *Secretary*, 57 Hancock Street, Lexington, Mass.

## 1891

Solomon Henry Stix died in Chicago, January 10, 1934. He leaves a wife and married daughter. He came from Cincinnati and was agent for the Mutual Benefit Life Insurance Company. Lonsdale Green writes that Sol was one of the few who kept up the local (Chicago) Technology Club and was a constant attendant at lunches, and so on. He has been feeble for the past two years. A man of character and fine personality. Member of the Ohio Society of Chicago.

The following attended the Alumni Dinner at Walker Memorial on February 17: H. C. Bradley, Snyder, G. A. Holmes, Hatch, Fiske, Howard, and Wilder. It was a most enjoyable occasion and some 850 attended. Fuller was coming but left for the South that day. Bowen and Young are in Jamaica. Dana and Damon are on world cruises. Forbes is in Spain. Probably others wandering around that we have forgotten or don't know about.

William H. Bassett, Chairman of the Board of Award of the John Fritz medal, presided during the ceremony at 11:30 A.M., Wednesday, January 17, in the Engineering Auditorium, New York City, when the medal was awarded posthumously to John R. Freeman '76. His son, John Ripley Freeman, Jr., '16, accepted the medal. The honor was bestowed for the eminence of Mr. Freeman in the fields of hydraulics and water supply, fire insurance, economics, and analyses of earthquake effects.

Barney received the following letter from Fred Moore at Hoopeston, Ill.: "I was glad to receive your kind note of birthday greeting and thank you very much for your kind wishes. Myself and my sons are doing as well as can be expected in these times of depression. I notice that a number of '91 men are sojourning in the South, but even they must have felt a little chilly during recent cold spells. From what I see in the newspapers, it has been so cold down your way that the waves froze in the act of breaking and the sea gulls froze solid into the surf! It has been 'some cold' here, but this country is so flat I can see all thermometers for three or four miles around me, so nobody ever thinks of perpetrating those cold weather yarns that come from the sea coast."

*1891 Continued*

On the evening of January 20 Mr. and Mrs. Carleton A. Read of 15 Hackfeld Road, Worcester, were guests at a dinner, in the home of Mr. and Mrs. Walter R. MacDonald of 1 Shawmut Street, in honor of the Reads' 40th wedding anniversary, which they observed on the 23d. The children and grandchildren of Mr. and Mrs. Read were also guests. The children are Mrs. Dorothy R. Chase of Somerset, Mrs. Eleanor A. Madison of Boston, and Lawrence M. Read of Bayside, L. I.; the grandchildren are Barbara Madison, Kenneth Chase, and Judith Ann Read. Carleton and Mrs. Read made Barney a very pleasant visit recently.

Gorham and Mrs. Dana are on their "round-the-world" cruise. He is a good correspondent and we will hear from him at his various ports of call. One letter takes him to the Canal and a second tells of his stop in Los Angeles: "Before starting on our Dollar Line trip around the world, I gave our itinerary to Secretary Locke of the Alumni Association and he kindly wrote letters to the local Tech Club secretaries in Panama, San Francisco, Honolulu, China, and Japan.

"We left New York on a mild winter day, January 25, on the *S. S. President Monroe*, carrying about 70 passengers and plenty of cargo. Soon we left winter behind and when we got off the Florida coast we could see the people on the beaches bathing. At Havana we were allowed to land and saw no sign of the recent fighting except some bullet holes in the National Hotel. Then came an interesting day at the Canal where we arrived in the early morning. The ship was taken in charge by the canal officials who for the modest sum of $10,000 landed us in the Pacific Ocean. It takes about 15 minutes and a lot of water to go through each lock and everything is done promptly and with efficiency. Gatun Lake, the largest artificial lake in the world, is of some 160 square miles — dotted with buoys and lighthouses. Then comes the big cut through the continental divide with hills 400 feet to 600 feet on each side. We passed several vessels and had to go close to the shore, where we could see the tropical vegetation and brilliant flowers. Down three more big steps and we are at the Balboa pier. Waiting for us with his car is Meade Bolton '16, government architect and big mogul of the Tech group at Panama. He drives us around the city, sets up the drinks at the cool Century Club, and finally takes us to his delightful home for supper.

"A talk on Tech matters brings out the fact that he, for one, is entirely satisfied with the management of the Alumni Association and anything that Secretary Locke says goes with him. He is looking forward to a short visit from President Compton on February 5. I told him he had a great treat in store, for '91 knows what a fine fellow he is by personal contact at our class dinner. Long life to Meade Bolton 'for he is a jolly good fellow.' "

"Yesterday morning dawned bright and warm but not hot. On our right were the rugged peaks of the coast range with Old Baldy snow covered. On our left the irregular outline of Catalina Island. Ahead was Los Angeles harbor with Long Beach, backed by a forest of oil wells. Behind the long breakwater a number of naval vessels of the Pacific fleet rode at anchor.

"At noon we docked and I telephoned Charley Garrison. In about an hour he and Mrs. Garrison arrived in their car, both looking very well and tanned by the warm January sun. They hated to admit that this was an exceptionally fine day even for California, but so it appeared from a further check up. Certainly it was hard to beat with the bright sun and ideal temperature of about 70°. They drove us to their attractive house at Long Beach about four miles distant, where close to the long sandy beach they look out across the blue Pacific. Housekeeping seems to be easy and economical in this sun-kist land. We saw the two attractive grandchildren just starting for the beach with their nurse. Then we read in the newspaper of zero weather in New York and Boston. It seemed a dream.

"A further drive of some 30 miles brought us to Pasadena and, after much twisting and turning, to the beautiful white stucco house of the Hoopers on Armada Avenue. The lawn was green, the flowers were in bloom, and there were George and Mrs. Hooper at the door to meet us. A most attractive house inside with tile floors and inn stair rails. Just behind, the ground falls off into a large valley in which is located the great football bowl holding 80,000, tennis courts, and golf links. George took us on a delightful drive across this valley and up a hill beyond known as Flint Ridge. We wound up to an elevation of about 1,800 feet on wonderful roads and with an ever-changing view of the great range of mountains which look down on Altadena, Pasadena, and Los Angeles. It is a noble range, deeply furrowed by great gullies and lightly wooded with pines and spruces. Great lanes have been cut in these trees to act as forest fire breaks. Within a year fire swept through a large section of these mountains and the next heavy rain rushed down the bare slopes causing one of the worst floods ever known here. So fire stop lanes are of vital importance. We had a wonderful view of the whole surrounding country from this elevation and George gave us a most interesting description of the city from first-hand information as city engineer for many years. After a cup of tea we found it was long past five and we were 40 miles from home. So off we set in the Garrison's car through villages between oil wells to the pier just in time for a seven o'clock dinner on the boat in which the Garrisons joined us.

"This morning Charley and his wife again very kindly took us on a 50-mile drive around the great peninsula guarding the harbor, on which is the very interesting development known as Palos Verdes, landscaped by Fred L. Olmsted, a co-worker with me on the Brookline Planning Board. We saw the delightful house he occupied when here and which the Garrisons occupied when they first came West. It is on the edge of a high cliff overlooking the sea, with beautiful grounds, now a bit faded for lack of care as the house is vacant. Large areas of vegetable gardens operated by Japanese are an interesting part of this peninsula.

"Charley Garrison saw Shattuck at Beverly recently and reports that he is very much improved and is not going back to the heat and sand storms of Indio."

Howard Forbes sent a postal from Spain saying they had been in Morocco and Southern Spain and expected to stay abroad until June. Mrs. Forbes wrote Barney on January 30: "We landed in Gibraltar (always spoken of as 'Gib' by the English) and were so cold we almost turned around for home. We learned afterward that we happened to strike unusual weather. From Gibraltar we went to Algiers, a short boat ride. It was also cold there. Then we went across to Tangier, a curious mixture of European and African civilization — Moors, Arabs, Jews, goats, donkeys, chickens, and dirt mixed with a few Europeans. The main street was noisy all day and all night. We got out as soon as we could and went by bus to Tetran, the capital of Spanish Morocco, a strikingly beautiful place with one or two excellent modern hotels — running hot and cold water in all the rooms and such good things to eat. By this time the cold snap was over and the weather has been wonderful ever since. You can sit out in the sun all day.

"We stayed nearly a week in Tetran and then came north to Seville, one of the most charming of Spanish cities, beautiful gardens, a wonderful cathedral, and old buildings. We spent hours walking about in the gardens; geraniums were in bloom; some roses and pinks just beginning. The mosaics and tiles of Seville are famous and the gardens were ablaze with them. Railings, fountains, and garden ornaments, all in colored tiles. All the buildings had decorations of them and the inner courts or patios were made lovely by them, as well as by flowers.

"Spain has many lovely sights and some marvelous scenery, but traveling is not as interesting as it is in some of the countries whose customs are more like our own. There is very little music, the cafés are all for men. The shops are uninteresting and the street life, while noisy and animated, is not interesting to watch. There are too many very poor people and beggars and too much dirt. There has been a great effort recently to attract tourists and many improvements have been made; for instance, the hotels are excellent, the drinking water is usually safe, and there are good bus lines across the mountainous regions that used to take hours by train.

"Children are supposed to go to school but the regulations seem to be so lax that the streets are full of them all day long. It is the same with begging; there are laws against it, but they are not enforced. Everything considered, you feel that Spain has a long way to go to be even with Western Europe.

*1891 Continued*

"From Malaga, where we are now and where the oranges are the sweetest you ever tasted, we are going to Granada and then probably to Madrid. After that our plans are uncertain."

Barney had the shock of his life a short time ago when the parishioners of the church which he attends in Cohasset presented him with a wonderful new radio which will get "everything" from "everywhere". It was a complete surprise and simply shows (what we all know) that there are others than his classmates who think a lot of Barney.

A short letter from Charlie Ricker in Havana, written in January, mentions the troublesome times. Presumably conditions have improved materially since then. — Linfield and Mrs. Damon sailed from New York on the steamship *Stella Polaris* for a world cruise which will take them through the South Sea Islands and the Indian Ocean. They will return home via Europe late in May.

Philip Powers writes from Springfield, Mass., that he is in pretty good health and family also all well. He has a summer home at Sunapee, N. H., but was unable to attend the '91 party held there last year. — F. Clouston Moore writes that he hopes to drive East some time this spring and call on Barney. Let us know ahead and we will have a picnic party in Cohasset.

Charlie Hanington wrote George Hooper in January that he is getting out and around after his serious automobile accident. He was laid up for 11 weeks, seven in the hospital. As Charlie says, "For a week or so it was 'nip and tuck' whether or not I would pull through." Here's hoping he will be all right again soon and as good as ever. — A letter from George Hooper says that Viele expects to be in Los Angeles soon and will drop in to see him. Hooper mentions Dana's expected visit (see Dana's letter). He expects to see Weed in the near future.

Mrs. Shattuck writes Charlie Garrison: "Forrest is much improved. He is able to be up part of each day. He can read which helps a lot and I know Forrest is going to get better; if only I could get him out into this beautiful sunshine. I wish you could come and see us soon. Forrest will be so delighted. He is well enough to enjoy seeing his friends."

Charlie Garrison also writes on February 1 of Dana's expected visit and the good news about Shattuck. "My sister and sister-in-law have been near us for a couple of months and plan to spend a month at La Jolla (near San Diego). We will probably spend a week with them when they first go down and another later on. From there they will go to Santa Barbara, where we shall visit them again. In June we hope to go with them for a three weeks' trip to Vancouver and way stations. I hope to call on Weed when these strenuous times are passed. From La Jolla we hope to call upon Arthur Alley and his sister. We will also go to Ensenada, some 80 miles down the peninsula of California in Mexico, located on a pleasant bay on the Pacific side. Then a few trips inland — Julian, Warner's Hot Springs, and so on, possibly over the mountains to El Centro." — HENRY A. FISKE, *Secretary*, Grinnell Company, Inc., 260 West Exchange Street, Providence, R. I. BARNARD CAPEN, *Assistant Secretary*, The Early Convalescent Home, Cohasset, Mass.

## 1893

The appointment of Henry A. Morss as Acting Treasurer of the Institute was announced by the Corporation on February 1. He succeeds his brother, the late Everett Morss '85, whose untimely death occurred last December. Henry Morss, like his brother, Everett, has long been active in Technology affairs. He was President of the Alumni Association in 1918–1919. He was an alumni term member of the Corporation from 1911 to 1916 and again from 1919 to 1924. In the latter year he was made a life member. In 1921 he was appointed Assistant Treasurer and in the succeeding years shared with his brother, Everett, the responsibilities of the chief financial adviser of the Institute.

Mr. and Mrs. Jesse B. Baxter of Milton, Mass., recently announced the engagement of their daughter, Miss Katharine Baxter to Mr. Harry Lufburrow McMahon, son of Mr. and Mrs. Frank McMahon of Red Bank, N. J. Miss Baxter is a graduate of Pine Manor and will make her New York début as a concert pianist next year, for which she is being coached by Mary Boxall Boyd. Mr. McMahon is a graduate of Lawrenceville and of Williams College.

For many years, Jesse Baxter has been connected with the Blue Hills National Bank of Milton, of which he is President. He has been active in town affairs, serving as a member of the Board of Selectmen and as Chairman of the Republican Town Committee of Milton.

Mr. and Mrs. Frederic H. Fay announce the engagement of their daughter, Miss Eleanor Potter Fay, to Mr. Wentworth Kennard. Miss Fay was graduated from Vassar College in 1931 and in the following year took graduate studies at Radcliffe College. She is a member of the Phi Beta Kappa Society. Mr. Kennard is a son of Mr. and Mrs. William W. Kennard of West Medford, Mass., and is a graduate of Exeter and of Harvard Engineering School.

The Town of Dighton, at a special town meeting held February 2, voted to build a Junior-Senior High School provided the government would contribute a 30% grant. Six architects were invited to submit sketches, among whom was Edmund I. Leeds of our class. Each architect was given one-half hour to sell his sketches to the building committee and, as all were specialists in schools, a very interesting series was exhibited. The committee discussed each set of plans after having submitted them to the Department of Education at the State House, and Leeds was unanimously chosen to be the architect. Incidentally, he had but three days in which to prepare his plans.

His building is distinctly colonial in design, is symmetrical, and not only meets all high school requirements, but also contains offices for the town officers, a large gymnasium-auditorium with balconies and stage well suited for all indoor sports as well as for town meetings. The school will be of brick, set back 100 feet or more from the highway, on a large lot which provides an ample campus for all out-of-door sports.

While our Assistant Secretary, as Chairman of the Board of Selectmen, is an ex-officio member of the building committee and might have been a bit prejudiced in favor of the sketches by Leeds, he had no vote. Leeds won the competition entirely on the merits of his plans, together with his ability to immediately point out how changes could be made to meet specific requirements.

All of us who took freshman military drill 44 years ago recall the old drill shed in the "hole-in-the-ground" on Exeter Street. Again we see the four companies in dress parade formation being reviewed by dignified Major George Guppy '93, while down the battalion front and back again march the "band" led by our incomparable drum-major, Harold M. Mott-Smith. For a few brief moments "Motty" holds the spotlight, eclipsing even George himself. In those days we little suspected "Motty's" remarkably versatile ability which was destined to lead him, with considerable success, through fields of music, business, and painting; until today we find him at Schenectady as artist for the General Electric Company. His life story to date is colorful and of romantic interest.

Mott-Smith was born in Hawaii where his father served under four of the old Hawaiian kings, eventually becoming resident minister in Washington. His son he sent to Plymouth, Mass. From the very beginning, "Motty" was sketching and dabbling in water colors. It is an effort to remember who taught him first because the impulse was a natural one. In school he turned his penmanship class into an artistic venture, in his spare time writing or drawing cards for sale. He also caned chair bottoms, and became proficient in other odd jobs. Two artists from Boston, summering in Plymouth, supplied the first real encouragement for his talent and gave him his first formal instruction in art.

While this was going on another interest was being vigorously developed, in music. He fell in with Fritz Gieser, first cellist of the Boston Symphony Orchestra and said to be one of the six greatest cellists in the world. With Gieser he lived, ate, and studied several hours a day until music came to share almost equally with art. Then, strangely enough, Mott-Smith entered M.I.T., embarking on a mechanical engineering course. He worked from engineering to chemistry, and in the latter subject was taught by a gentleman since become rather famous, especially in Schenectady, Willis R. Whitney, later the head of the General Electric research laboratory. One of the experiments in chemistry class called for

*1893 Continued*

coating glass with wax and then studying the etching effect of hydrofluoric acid upon it. "Motty" etched in the portrait of a professor and took it to Whitney with his deductions — which had more relation to the etching than to the experiment. Whitney said he was a better artist than a chemist and persuaded him to enter the architectural course. This was better, but led to more drawing. He was art editor of the annual and of the monthly paper, and became absorbed in the art schools and museums of Boston. It was only natural that he didn't graduate, because there was a three way pull on him — architecture or business in one direction, art in another, and in the third was music, with Gieser urging him to drop the others for the cello. Mott-Smith made his choice and went to Paris.

In the art center of the modern world he studied under Jean Paul Laurans, Benjamin Constant, Joseph LeBlanc, Courtois, and Henri Martin. He first exhibited with pen drawings, in the salon of Beaux Arts, later with paintings. At this time he returned to this country and underwent one of his occasional stages of business experiences, becoming President of a bicycle business. He married, returned to Paris, painted his wife's portrait, and in 1896, this was exhibited in the salon. The portrait is still in Mott-Smith's possession. In Paris was the American Art Association, with Rodman Wanamaker as President. "Motty" became Vice-President, a position which carried lots of active work with it. Finally he forsook Paris again — this time for Hawaii.

Here he was for a time in the investment business, and while in the Islands did a series of historical portraits of the old kings, most of which are in the Damon Museum. His chief interest was in the orientals, especially the children. Returning to the United States once more, he left all his paintings with a dealer in San Francisco and they were destroyed in the earthquake and fire. Then it was back to France — this time for business. He built a factory in the south of France for drying milk, and it operated until the time of the Manchurian War, when he returned to America. On this visit he worked for 15 months in Schenectady for General Electric before going to Syracuse to study another and better process of drying milk. The company owning the process employed him, sent him to England to build and manage a plant. He stayed two-and-a-half years on the job, always painting in his spare moments. Finally the urge became too great and business was given up. Back in New York he free-lanced, illustrating and doing portraits in Philadelphia and other cities for three years. The Wilson administration came in, times were bad, and commissions faded.

Mott-Smith came to Schenectady, interviewed Martin Rice, head of G. E. publicity department, and was put in the catalog section, where he had the job of writing and illustrating a catalog for generating equipment for Manila. This took him more than a year, and he gradually drifted in what was later the art department, although its organization was not then as definite as it is now. Today, he and Walter Greene paint the subjects for the General Electric calendar, among other things, Mott-Smith specializing in the portrait work. He has "done" most of the G. E. famous on canvas. He has three sons, one a science professor at the University of Illinois, one a writer on bridge, and one in the law department of the New York Central Railroad. The career of the first is as colorful as his father's.

"Motty" still has his "interests". He is President of the Schenectady Hygienic Laboratory. He plays in every orchestra that can be organized. Once he was thrown off a stage and so he joined the musicians' union. When the musical urge gets so strong that it interferes with everything else, he lends the cello. He has a studio on State Street, where he conducts an art class, and at various times has assisted in drawing up art courses in the capital district schools. His theory is that when shorter working days arrive (perhaps they have come to stay with the NRA) a real interest in drawing and painting will be cultivated among people with imaginations, people who have not been brought up to be "blind". But he himself is still pulled in three directions.

Toross Torossian will be recalled especially by the "civils" as the Armenian student who, following his graduation from Robert College, Constantinople, took the full four-year course with the class. Although his entire professional life has been spent in the Balkans and in Persia, he has always maintained his interest in Tech and from time to time writes to the class Secretary (which cannot be said of *all* members of the class, most of whom are not so far away from Boston). A native of Asia Minor, Torossian came to the Institute from Bulgaria to which country he returned after receiving his degree in 1894. From 1899 to 1906 he and his brother were engaged in construction work in Persia for the Russian government. As between them they were able to speak English, French, German, Russian, Persian, Turkish, Armenian, and Bulgarian, and as naturally they understood better than European contractors the peculiar business methods of Orientals, they succeeded particularly well in their work. It was in Teheran, Persia, that Torossian was married in 1906. Returning to Bulgaria that year, he was engaged for a time in the flour business, and in 1909 he became municipal engineer of Lome, Bulgaria, a town on the Danube. During his five years' administration water supply, sewers, electric lighting, public bath houses, and parks were established and a dozen new school houses built. Through the War Period and subsequently Torossian has been in private practice as engineer and architect at Lome; doubtless a somewhat checkered and trying experience considering the turbulent conditions of the Balkans. In his latest letter Torossian writes that he had been urged by his brother-in-law, a builder in Teheran, to take up engineering practice again in Persia. He says: "We could not go because we had to travel through Soviet Russia with which Bulgaria has no diplomatic relations. The route via Turkey, Egypt, and Mesopotamia is long, costly, and dangerous. We decided to stay in Bulgaria for, I believe, in the near future Persia will become a battlefield, and we have suffered enough for the sake of revolutions and wars since I left the Institute." Undoubtedly Torossian would eagerly welcome letters from members of the class. Address him as "Monsieur T. Torossian, ingenieur, à Lome, Bulgarie".

Frederick D. Smith, Chief Engineer and Director of the Metropolitan Sewerage Works of Massachusetts, was retired on pension because of age limitations late in 1933. His entire engineering career since graduation has been with the Metropolitan Sewerage Commission and its successor, the Metropolitan District Commission, with which commissions he has held successively the positions of engineering clerk, superintendent, assistant engineer, chief engineer and director. Smith's home address is 25 Waverly Street, Malden.

The following changes in address are noted: Orren Allen, 4802 West 34th Avenue, Denver, Colo.; John R. Brittain, 4130 Edgehill Drive, Los Angeles, Calif.; Farley G. Clark, 251 Russell Hill Road, Toronto, Ontario; George K. Dearborn, 4 Newport Road, Cambridge, Mass.; Frederick W. Hadley, 1037 East Clifton Road, N. E., Atlanta, Ga.; John C. Hawley, 2301 Connecticut Avenue, Washington, D. C.; Prof. Ervin Kenison, 486 North Maple Avenue, East Orange, N. J.; Audrey Ruggles, Unionville, Conn.; Charles S. Pastorius, 724 North Cascade Avenue, Colorado Springs, Colo. — FREDERIC H. FAY, *Secretary*, 44 School Street, Boston, Mass. GEORGE B. GLIDDEN, *Assistant Secretary*, 551 Tremont Street, Boston, Mass.

## 1895

The alumni dinner has come and gone, and with it a most pleasant gathering of a dozen boys of '95. Return postals were mailed to 66 men living in and around Boston. Only 40% replied and 12 attended. Booth, Barrows, Jene and Gus Clapp, Defren, Billy Hall, Littlefield, Hurd, Win Parker, Watkins, Winkley, and Yoder qualified. Ten of us managed to get at the same table. Hurd and Littlefield were lost in the shuffle as the crowd attending overtaxed the capacity of Walker Building. Your Secretary can not understand why so large a number did not reply to the call. Possibly lead pencils and ink have disappeared with the depression. Better response next time.

Billy Winkley still holds the smile that won't come off. The two Clapp boys do not look a day older. George Defren is just as prim as ever. Tom Booth and Watkins were the tallest and heaviest of those attending. Barrows has become somewhat more sedate. Billy Hall reports his family at a standstill, and Parker still retains his bewitching eyes.

*1895 Continued*

So it goes, when the old folks get together. Yoder must be satisfied with relating the beauty spots of the gang. Well, we all had a good dinner and a good time. The affair was a huge success.

With all our good times we must pause to make record of our depleting ranks. We have been advised, in time for this issue, of the death of Dr. John W. Draper, who was located at Hastings-on-Hudson on January 26, 1931. Edward Leber, who was located in the Hay Building, York, Pa., passed away on October 15, 1933. Detailed information covering these two deaths is not available at this time.

Walter W. Reed, who was living in Washington, D. C., at the Mayfair Apartments on 2115 C Street, N. W., died January 4, 1934. Some may recall the interesting career of Walter Reed. After some three years in the Light and Power operations in Winthrop, Mass., he went to Houston, Texas, where with Colonel Chapman, in charge of the construction of the Power House for the Citizens Electric Light and Power Company, he was appointed superintendent, and shortly thereafter became general superintendent, which position he held until the year 1915. Later, in 1918, Reed accepted a position in the U. S. Navy Department of Yards and Docks, in Washington, D. C. In 1923, he left this work to go with Dwight Robinson Company, New York Engineers, where he served for two years, and then accepted the job as engineer on the Holland Tunnel, under the Port Authority of New York City.

In January, 1926, he returned to the Yards and Docks Department of the Navy, where he remained until his recent death. During his service with the Government, he attained increasing grades of service. Walter Reed was of New England stock and was buried in his native town of Waltham, Mass. He always received the greatest respect and admiration from his associates.

We are passing "The House by the Road" one by one. May the world be the better for what service we have rendered. — LUTHER K. YODER, *Secretary*, 69 Pleasant Street, Ayer, Mass. JOHN H. GARDINER, *Assistant Secretary*, Graybar Electric Company, 420 Lexington Avenue, New York, N. Y.

## 1896

'96 did its share toward swelling the attendance at the Annual Alumni Dinner in Walker Memorial on February 17, when 15 men turned out, as follows: Fred Damon, Bob Davis, Jim Driscoll, Henry Grush and son, Donald, Frank Guptill, Will Hedge, Perry Howard and guest, Joe Knight, Charlie Locke, Elmer Robinson, John Rockwell, Jim Smyser, Charlie Tucker, Lucius Tyler, and Perl Underhill.

Arthur Baldwin reported from Paris the last of January that he had returned from a short visit to America, which was all too brief, and did not allow him even to get to Boston to see his sisters and brother. Furthermore, his program was badly upset by a cold, which confined him to his hotel for the better part of a week. Within a few hours after his return to Paris he attended the annual meeting and dinner of the American Chamber of Commerce in France, and on that occasion was inducted into the presidency of that august institution, which happens to be the oldest American Chamber of Commerce outside of the United States, being now in its 40th year, and which, with a membership of nearly 700, has always done an important work in Franco-American business relations, acting in close and cordial relationship with the American Embassy and the Consulate General. This important meeting was reported in the Paris edition of the New York *Herald* of Thursday, January 18, 1934, with a picture of Baldwin and his brother officers at the banquet table, and a special picture of Arthur in his office.

At the annual meeting of the American Institute of Mining and Metallurgical Engineers in New York, during the week of Washington's birthday, the Secretary saw Bradley Stoughton, and got the correct information on the recent fire. It seems that Stoughton's new house was not entirely consumed, but the fire damage was confined to one portion, although the remainder suffered badly from smoke and water. Incidentally, a new fourth edition of Stoughton's book, "The Metallurgy of Iron and Steel," is now out.

Jim Melluish finally landed a job in the New York Department of Health as Engineer in Charge of Specific Projects in the Borough of Bronx. From this he was transferred to Government sanitary and hydraulic work on Governors Island in New York Harbor, with the expectation that before long he may be assigned to a much larger field. At the beginning it took him a little time to become hardened to the exposure connected with his job, and he suffered from severe bronchial colds, but the last word was that the bronchitis had entirely departed and he was feeling fine, and was busy as a bee.

A rather interesting case has arisen of a man in Florida who claimed to be Admiral Charles Morris of the Class of '96 at M.I.T., now retired and living in Brookline, Mass. When this case was investigated it was found that it was not one of the more common cases of an impostor who claims to be a Technology man for the purpose of fleecing his victims, but the person was mentally deranged, and undoubtedly really imagined that he was Charlie Morris, and a retired admiral of the U. S. Navy.

Gene Hultman, Police Commissioner of Boston, with Mrs. Hultman sailed on the *Carinthia* of the Cunard Line for a southern cruise of about a month, extending as far as Buenos Aires. The boat was scheduled to leave New York at 11:00 A.M. on Tuesday, February 20, and the Hultmans took the night train Monday, which will be remembered in New England as the night of the blizzard that tied up the New Haven Railroad for about 24 hours. The result was that the Hultmans did not arrive in New York until the evening of Tuesday, February 20. However, the same blizzard prevented the boat from sailing, so they caught it, and everything ended happily.

A long and interesting letter of 20 pages has been received from Con Young who, with Mrs. Young, is wintering as usual in Fort Myers, Fla. With all of the rush of work in which the Secretaries have been engaged, this letter and various clippings from local newspapers have not been fully digested, but the indications are that Con has been fishing, with various kinds of luck, and has been singing, has staged a very successful cabaret dinner dance for the Fort Myers Community Club, and has made himself a generally useful and popular member of the community. This letter will be properly reviewed in due time, but the Secretary felt that all would be interested to know that Con had finally been heard from after a long silence, and was in good shape.

We left the Fullers departing from Buenos Aires. Steaming south, they encountered colder weather and long daylight, lasting from 3.00 A.M. to 9:00 P.M. The Falkland Islands, which they visited next, are the most southerly of all British colonies, and consist chiefly of two large, deeply indented, cold and bleak islands, 250 miles northeast of Cape Horn. Treeless and covered with thick, wet, spongy peat and heather, through which bare, bleached ledges project from point to point, the land resembles the more dreary parts of north Scotland. Rain falls on two days out of every three, and almost continual gales sweep the islands. Nevertheless, they support some 2,000 people and a great number of sheep.

Port Stanley, the principal settlement of a thousand people, is a small but neat wooden town resembling the fishing villages of Newfoundland. Great jawbones of the whale lie about as they once did on Cape Cod and Nantucket. A pungent odor of burning peat, the domestic fuel of the islands, fills the air. The centennial of its foundation as a British colony was being celebrated, as they arrived, with a salute by warships, streets decorated with flags, and a parade of soldiers and sailors.

In the enclosed harbor, entered through a narrow passage in the rock, lies at anchor the *Great Britain*, the first screw steamer to cross the Atlantic to New York, as well as a number of battered hulks, the derelicts of Antarctic gales. At one of the wharves lies the *Discovery*, used by Shackleton on his expedition to the Antarctic ice fields.

The feature of their stay in the Falklands was a visit to the picturesque but odoriferous penguin rookeries. Although not nesting at the time, some thousands of these curious birds remained in densely packed masses on the peaty surface. Nearly two feet high and with wings shrunk to mere flippers, they stand stolidly nodding and blinking but without fear when approached. If one moves slowly he can go among them or even touch them. Ordinarily they make a

*1896 Continued*

chicken-like sound, with an occasional braying, which has given them their common name of Jackass Penguins. In the end they seemed to become tired of being stared at and photographed and, led by the older birds, trailed off in soldier-like ranks toward the sea. From the Falklands the Fullers' course was through the cold and stormy Straits of Magellan, up the 2,800 miles of seacoast of Chile, where the towering Andes, known in the south as the Switzerland of Chile, come down to the sea and give rise to bold, heavily forested islands, along or behind which they made their way for several days, running inland from point to point up long narrow fiords penetrating far into the snow-capped mountains. Conical volcanoes, some in eruption within a year or two, stand in bold relief against the sky. One of these, seen from the picturesque Chilean lakes to which they made a trip inland, rivals Japan's famous Fujiyama in grandeur. Along the coast, a jet of steam rising from the sea told of submarine volcanic activity beneath.

They visited Valparaiso and Santiago. The world-wide business slump, supplemented by the collapse of the nitrate industry in Chile, has resulted in very low prices. Trolley fares are equivalent to 1/10 of a cent in American money. A fine meal in the magnificent Valparaiso Casino, billed at $12.00, amounted only to 25 cents. Beer was equivalent to two cents and cork-tip cigarettes equivalent to one-and-a-half cents per package of 14.

From Valparaiso their ship made a special trip to Juan Fernandez, 400 miles off shore to the west. Although Defoe himself locates the scene of his story on an island, presumably Tobago, off Trinidad and the Orinoco, the plot is accepted as being suggested by the experience of Alexander Selkirk on Juan Fernandez, since familiarly known as Robinson Crusoe Island.

Selkirk, following trouble with his captain in 1704, asked that he be landed, and although he changed his mind when the ship was about to sail, he was left behind and for over four years lived alone on the island, 12 miles in length, with abrupt mountains, rising to 3,000 feet. Goats, descended from those left by its discoverer, Fernandez, in 1563, and fish and shellfish from its bays supplied him with food. The Fullers' ship anchored in front of his camp site, near the spot where the *Dresden* was sunk by the British in 1915. Many climbed the lookout, an 18-foot peak marked with a tablet. On sailing, they carried a supply of lobsters or crayfish, famous since Selkirk's day, for their table.

After returning to the Chilean coast the trip was up along the arid section of North Chile, which changed to greener country along the Peruvian coast. In ports of northern Chile they saw a German ship said to be unloading Bolivian war munitions for use in its contest with far-away Paraguay, while in Peru similar supplies were reported as being landed for transportation to cross to the upper Amazon for use in Peru's contest with Colombia. It was said that the purpose of the fighting is not so much the acquisition of territory in either case as it is to distract attention from local troubles and thus forestall possible revolts.

They left the ship, on which they had almost circled South America, at Panama and returned to New York on an American steamer by way of Haiti. The banking crisis prevented the cashing of travelers' checks and although they suffered no real inconvenience, they had only $1.25 in actual cash when they reached Brockton. — CHARLES E. LOCKE, *Secretary*, Room 8–109, M.I.T., Cambridge, Mass. JOHN A. ROCKWELL, *Assistant Secretary*, 24 Garden Street, Cambridge, Mass.

## 1897

In reply to a letter from the Acting Secretary, John Collins at the Arlington Mills, Lawrence, answered with the following interesting account of present conditions in the textile industry: "The year 1933 was characterized by a marked improvement in all branches of textile industry. For the first time in a number of years, many corporations were able to show their net results in black instead of in red, and for that reason dividends have been declared by some directorates. In nearly every such instance, however, in issuing the annual statement to the stockholders, the point has been emphasized that such present declarations were not to be considered in any way as indicative of future action. One phase of the business that helped greatly to improve the financial situation at the end of 1933 was that of inventory mark-up. For seven or eight years past, each December has seen the necessity of further inventory mark-downs, which in many cases have reduced a worthwhile manufacturing profit to a very considerable net loss. Raw materials have increased in cost, thus raising the values of any such held in stock and also those of manufactured products. Unless there be still further increases, such mark-up advantages will not be available at the end of 1934.

"Employment has greatly increased and hourly rates of wages, in the worsted industry, for instance, are 48.5% greater than they were in May, 1933. Due to the requirements of the Textile Code in reducing the working hours from 48 to 40 per week, manufacturing costs have been increased in greater proportion than that represented by the wage increase. Lessened hours have resulted in reduced product, but fixed charges remain the same. Thus unit costs are higher. Just at present, there is a slackening in operations, partly seasonable and partly by reason, no doubt, of business uncertainties. Like all the major industries, the textile industry today is living in the present, trying to forget the past, while looking forward to the future with high hopes yet making no pronounced assertions that such hopes are to be realized."

An interesting event taking place in February was the marriage of Miss Nancy W. Jackson, daughter of our Allen Jackson, to Mr. Alfred H. B. Peabody in the First Parish Church of Cambridge. Mr. and Mrs. Peabody have sailed on a wedding trip to Italy and England and after their return, about May, they will be at home at Waumpetuck Road, Dedham.

Technology had a most successful Alumni Dinner at the Walker Memorial, Saturday night, February 17. This dinner was somewhat different from previous dinners as there were no outside speakers, and the dinner was less expensive and more informal in every way. There were over 800 alumni present, the largest alumni dinner Technology has ever had. The Class of '97 increased its quota by about 300% and had 11 men present: Arthur T. Hopkins, Harry E. Worcester, Charles B. Breed, Lucerne Cowles, Walter Humphreys, Jack Illseley, James Killam, Arthur Elson, William Bidley, Walter B. Russell, and Charles W. Bradlee.

You will be grieved to learn of the death of our classmate, Howard H. Burdick, who has been for the last 34 years with the Travelers Insurance Company and died on January 13 of a cerebral hemorrhage at his home, 36 Cone Street, Hartford, after an illness of two days. In July, 1933, Mr. Burdick was retired on a pension after having completed 34 years with the company. Burdick was a deacon in the Asylum Avenue Baptist Church, of which his father was one of the founders. He was also Treasurer of the church for many years. He was a member of the Connecticut Society of the American Revolution, the Hartford Engineering Society, the University Club, and the City Club. He leaves his wife, one son, one daughter, and four grandchildren.

You will be interested to learn that Charles Breed has been appointed acting Head of the Civil Engineering Department at M. I. T., which includes the courses of Civil Engineering, Sanitary Engineering, and Building Construction. Charlie has also been connected of recent years with a unique and interesting project in the Province of Quebec. It is the Seigniory Club, comprising 100 square miles of Laurentian mountain property, 75 miles west of Montreal. Fronting on the Ottawa River, the club functions as an international year-round country club with Canadian and American families as members. The large Log Chateau accommodates members and non-member guests, and private cabins are built for some families about the golf course. Breed designed and supervised the construction of this extensive project as consulting engineer. The project is sponsored by the Canadian Pacific Railway; Mr. E. W. Beatty heads the Board of Governors.

We have just heard that Walter Spear has been appointed acting chief engineer of the New York water supply. — Professor George L. Hosmer of our class, who has been away from the Institute for the past two or three months suffering from heart trouble, has recently come into his office at Technology but has not as yet started taking up any class work. — We note with a great deal of pleasure that Harry Worcester has been appointed

*1897 Continued*

*pro tempore* member of the Executive Committee of the Institute during the absence of Gerard Swope '95. We are sure that the Institute is fortunate to have the benefit of his services and advice in this capacity. — The Executive Committee of the Class had a very interesting gathering at Harry Worcester's house on the evening of February 19 to go over class matters and it was decided to hold a meeting of the class sometime during the month of June.

Henry R. Heard, who was a member of our class during our freshman year, died on June 6, 1933, at his home, 4 Louisburg Square, Boston. He played on our freshman football team and was a member of the fraternity of Delta Psi. After leaving the Institute, he entered the insurance business. Having suffered from ill health for a number of years, however, he had retired from active business, spending his winters at his home in Boston and his summers at Magnolia. Two brothers and his widow, who was before her marriage Miss Elizabeth Brengel, of Philadelphia, survive him.

Chester Hubbard reports that Frank G. Feeley dropped in on him recently. Frank is apparently carrying his years gracefully. He is still with the E. D. Jones and Sons Company of Pittsfield. His son, Frank, Jr., recently at Tech, has taken to the high seas and is now running on one of the Luckenbach ships in the intercoastal trade.

Additional honors in financial lines have come to William C. Potter, III. In December he made public the so-called Morgan plan for revising the country's banking system as opposed to the Rockefeller plan proposed last March by Winthrop W. Aldrich. Mr. Potter is President of the Guaranty Trust Company of New York City. His entrance into financial circles came in 1904 when he became resident manager of the Guggenheim interests in Mexico. Later he became connected with the American Smelting and Refining Company and came to the Guaranty Trust Company as Vice-President. — JOHN A. COLLINS, JR., *Secretary*, 20 Quincy Street, Lawrence, Mass. CHARLES W. BRADLEE, *Acting Secretary*, 261 Franklin Street, Boston, Mass.

## 1900

The Alumni Dinner was well attended by this Class; some dozen of the faithful grouped together. They were Pickersgill, Charlie Smith, Ziegler, Allen, Bugbee, Comey, Silverman, Fitch, Patch, Harry Osgood, Bowditch, and the Secretary.

A fine letter was received from W. S. Hart, Vice-President and Treasurer of the Shawinigan Water and Power Company of Montreal, where he has been for the past 31 years. He wanted to be remembered to all his friends.

Bugbee tells us a little about three of the boys as follows: "I have been intending for some time to send you one or two notes of classmates with whom I have occasional correspondence, and take this opportunity of handing you the following. Fred B. Wilder, III, who has been living in Los Angeles, Calif., for some years past, writes on the letterhead of the Arnold Exploration Company, Ltd., and shows interest in mining of all sorts with the emphasis on gold. If anybody wants to buy a gold mine, they are advised to write Fred at the above address and he promises to supply the want. He tells me that Bob Clary makes his headquarters in the same town. George A. Tweedy, who had headquarters for some time past in Los Angeles, has moved with his family to Deer Lodge, Mont. He has two likely looking gold mines under option and in case any 1900 man would like to take a chance in gold mining, I imagine George would show him how to do it. On my own account, I may say I have recently gotten out from under a second edition of my textbook on Fire Assaying."

Jouett from Cleveland writes: "There have been no births, deaths, or marriages in my immediate family, and I have not yet any children in college, my older daughter having no inclination for college and my younger daughter not being ready until this fall. My business connection remains the same as for the past several years. I have not taken any special vacation trip, which is out of the ordinary, and I have not published any articles. When I read the class news in The Technology Review, I wish I had some news to send you, as I know you have a tough job in trying to get together something about class members which is of interest to the other members. However, I do not seem to have anything which I feel is of particular interest. I rarely meet any members of the class, although I think there are a few in this territory. Bill Angus called on me two or three months ago on his way home from a motor trip through the East and I was mighty glad to have a talk with him; I only wish it could have been longer. I also often wish I could attend some of the Technology dinners in Boston, at which the class has a table, but unfortunately it takes too much time from business to go to and return from Boston for such a function. I have now been in Cleveland for 12 years and I do not know just how much longer I may be here, although when I came to this city I expected to stay about seven years. At the present time I carry the title of Terminal Manager of the Cleveland Union Terminal, which was constructed under my supervision as Chief Engineer, and I am now concerned with operating and maintenance problems. I regret that I cannot give you any matters of interest concerning members of the class or myself."

Carleton Ellis writes: "A great deal of my work has been in the field of synthetic resins and this has led to the organization of the Rezyl Corporation as a subsidiary of the American Cyanamid Company. In another direction I have studied very carefully the urea-formaldehyde resins, which in turn led to the organization of the Unyte Corporation, under the auspices of the I. G. Farbenindustrie A.-G. A considerable part of my time in recent years has been devoted to various publications, one of these being entitled 'Hydrogenation of Organic Substances,' a book of about 1,000 pages, published in 1930. Also I have recently completed a very voluminous manuscript on the subject 'Chemistry of Petroleum Derivatives,' which is now in the publisher's hands and will probably assemble as a book also of about 1,000 pages. At the present time I am working on a new edition of my book on synthetic resins, to bear the title 'Chemistry of Synthetic Resins,' a book which probably will appear some time next year, of an estimated size of 1,200 pages. At the same time the laboratory here is very busy in research work, especially in the field of petroleum products and synthetic resins."

A nice long letter from Constantine down in Mexico; among other things he writes: "Where do M. I. T. men go? One would think they would come to this country of vast natural resources, where the engineer is in his element. This is the greatest silver country in the world, but where are the graduates of Course III? (Is Mining still called that?) I've met only one Course III man in Mexico. There was a change of government and the city was in darkness. I was scouting around when I heard voices in English. I veered towards them. Presently I made out two shapes. I spoke. Instantly one of the shapes called out, 'Isn't it Constantine who used to be at M. I. T.?' It was Eveland, III, '01. I saw Professor Dewey when he was here last summer. I went up to him and said, 'One of your old students, Constantine.' He drew me to him saying 'Yes, I remember you very well.' I thought he was just being nice, but in a little while he called me 'Arthur.' He even told my little boy how I had looked when I was at Tech. A couple of years ago, Professor William Z. Ripley was here and I saw a lot of him. You might pass the word to the Class of '99 that Robert Frazer, ex '99, is now Consul General in London. He was Consul General in Mexico City for two years. He used to be with us in Course IX. I have a small boy who plans to go first to Yale, afterwards to M. I. T. He plays both American football and Rugby. He is also a corking little sprinter. I used to try to run. He can. I have also two lovely daughters. Here's hoping I'll go to Boston in the summer or fall of 1934."

Other letters came from Dean Hinman, Chicago, telling of his change from the Great Western to Asphaltic Materials Company; from Dutton, Lebanon, Pa., with best wishes; from Mead; from G. H. Leach with greetings; and from Leatherbee.

The Secretary has been quite busy lately as Chairman of the Track Committee of the University Club in running the indoor meet of the New England Colleges at the Boston Garden on February 21 and it brought back memories of old Mechanics Hall when the Hurds, Curtises, Emerys, Priests, and Grosvenors struggled to keep the big silver gray T out in front. In this meet the sons of the Class are represented: Richard H., son of Dave Ellis, running a relay leg for North-

*1900 Continued*

eastern, and Lindsey R., son of Ed Brigham, competing for Dartmouth. Verily, Time Marches On. — C. BURTON COTTING, *Secretary*, 111 Devonshire Street, Boston, Mass.

## 1901

Well, the long-anticipated return to nature of the Alumni Association has taken place and now I'm going to tell you all about it. In the first place we had the largest representation of the Class of 1901 that has ever transpired within my recollection. True, we fell short of the noisy and numerous cohorts of some of the younger classes and we did not even approximate the showing of the Class of 1868 which was 50% present, but eight staunch and true members of our organization were there. More than that we had to have an overflow meeting as both Perk Parrock and Bill Dow were late to the feast and their seats had been seized by ravenous members of other classes pining for the simple fare with which the board was spread. I did the groaning, but then bread and milk has never had the direct appeal to me that it enjoys with those of more chastened tastes and stronger stomachs.

One very pleasing feature of the show was that the undergraduates kept Open House in the Walker Memorial for an hour before the nominal beginning of the dinner. In addition our fellow alumnus, Joe Levis '26, runner-up for the World's Championship at the last Olympic, got together a group of expert foilsmen and they gave a bully exhibition in the gymnasium of what the fencing team may sometime hope to do. Not that they will; there is only one Joe to a generation, but it was a grand show. Nearly 900 of the Alumni Association sat down to the simple (v.s.) and bounteous repast furnished by the Walker Memorial Dining Service (Adv.). When we had eaten to the point of repletion — and how — my fellow Vermonter, the Honorable Redfield Proctor, opened the postprandial exercises, introducing first Dr. Compton and next Dr. Aydelotte as the brides of the evening. We also had the singing of the Stein Song under the able directorship of Stephen Townsend, the first man who ever sang it after Fred Bullard had written it. The effect was marred somewhat, over and beyond the usual cacophony of our regrettably unmusical group, by the fact that all of the brass and tin of the student orchestra which had been mooing gently — this a tribute to the bread and milk — throughout the evening was unavailable as a background. The horrid fact developed on inquiry that the Technology student orchestra, for that I believe is its somewhat grandiose title, has no score of the Stein Song. This is a defect which should be repaired without delay and is an unfortunate commentary on the taste of our musically inclined. It so happens that the Stein Song is a good musical composition as well as presenting a certain appeal to the older generations who, thank God, are not devoid of sentiment. Well anyhow! We also had a Technology moving picture film which, barring the loathsome vehicle in which it was presented — this merely a personal comment from one who eschews the movies — was an extremely well organized, conducted, and presented piece of work. Take it by and large, it reflects great credit both on the Institute and more particularly on those responsible for its preparation. I wish it could have been done in color as that would have humanized the lineaments of several well-known faces. Furthermore, I should regard the smoke from the factories as more impressive if there had been a slight wind blowing.

Edgerton gave a most absorbing series of pictures done by his new process which makes up to several thousand records per second. This was one of the best shows that M. I. T. has ever put on. Take it all in all, the Alumni dinner was a great success and the officers of the Association — this means Reddy Proctor — extremely well advised to have it in the Walker Memorial and to turn on just the type of show which they did.

The *bonne bouche* of the occasion was the assembly of the Class of 1901. Neddy Seaver, bearing his natural oriflamme still untouched by the snows of yester-, this and next year, is one of our reliables, as are Perk Parrock and Bill Dow. John McGann has been a faithful performer, too, at intervals. Norman DuBois turned up and apparently derived both pleasure and satisfaction from his participation in the orgy. He's coming to the next reunion; a bit of good missionary work, that, but the best is yet to come. Roly Simonds, whom none of us have seen since graduation because he has, as he said, "been on the road," was there with a little Roly, of mature years it is true, but bearing a pleasantly unmistakable family resemblance. Seemingly Roly must return home from time to time though apparently has never yet tarried long enough to get in touch with the Class. He promises better things for the future, however, and is also signed up for the reunion, presumably because the latter will not be held in Boston and he can take it in "on the road."

And now we come to the brightest jewel in our crown: Jim Monaghan, who for years has foregone the companionship of his pacifist confreres in order to guide the textile industry as an avocation and conduct a variety of European wars as his principal occupation. Jim, I repeat, graced our pastoral gathering with his presence both in the flesh and in the pink. To the uninitiated, I may say that the above is a technical phrase without Turkish Bath connotation. Jim has led a wandering and extremely interesting life during these later years but he is pledged for the next reunion and I live for the moment when I can see him with Fred Clapp reviewing their peregrinations of the past 15 years, leaving no part of the known or unknown, habitable or uninhabitable Globe untouched and enthralling us stay-at-homes with their tales of wild adventure, most of which I feel absolutely certain I can never repeat in these columns. It was certainly good to see Roly and Jim after all these years, and now that they have braved the hazard and found their classmates both amenable and housebroken, there is, I believe, a reasonable prospect of further foregatherings for the coming years.

I have already exceeded editorial limits and must wait until next month to tell you of the interesting show that Jack Scully as Federal Director of the Emergency Relief in Massachusetts and Frank Chase as State Administrator of the CWA for Illinois are turning on. By that time, possibly, other members of the class may have taken over the affairs of other commonwealths. My next statement, in short, will deal with "Who's Who in the Alphabet" but unlike those of the family of our chief executive, my efficient services are rendered gratuitously. — ALLAN WINTER ROWE, *Secretary*, 4 Newbury Street, Boston, Mass.

## 1902

At the Alumni Dinner at the Walker Memorial on February 17 there was the largest turnout of classmates for several years. Those at the class tables were: Ballard, Bassett, Collier, Fitch, Haskell, Hunter, Jason Mixter, Moore, Burt Philbrick, Porter, Ritchie, Adrian Sawyer, and Doc Williams. Proctor was, of course, at the head table, but slipped out of the limelight long enough to visit the '02 group and shake hands with his classmates. Ballard was accompanied by his younger son, Joseph, and Fitch by his son, Wendell, a sophomore at Technology. We learned from Haskell that his son, Albert, Jr., is following in his father's footsteps and is a member of the freshman class at M. I. T.

Roger Greeley was chosen chairman at the first meeting of the Free Religious Fellowship, a working alliance of the Unitarian and Universalist denominations. Roger was one of the delegates from the Unitarian body to the conferences that developed the plan for the alliance and is one of the representatives of that church to the new body. Roger gets a double notice this month as he has recently become a grandfather. A daughter, Faith, was born on December 14 to the wife of his son, Rev. Dana McLean Greeley. The Rev. Dana Greeley has been for the past two years minister of the Unitarian Church at Lincoln, Mass., and has recently been called to the church at Concord, N. H.

Lewis Moore has moved his engineering office to 20 Beacon Street, Boston, where he has a fine view of the State House lawn. He is sharing office quarters with Mr. Everett E. Stone, who was one of the commissioners of the Department of Public Utilities of Massachusetts when Moore was bridge and signal engineer for that department. Moore's son, Lieut. Luther Samuel Moore, was married at Shanghai, China, on December 4 to Patricia Greenleaf of Gloucester, Mass. Lieut. Moore, who graduated from Annapolis in 1931, is in command of a machine gun platoon of the 4th Marines. He has been stationed at Shanghai for over a year and will probably be in China

*1902 Continued*

for a couple of years more. The bride elect made the long journey to Shanghai for the wedding.

Great sympathy will be felt for Mendenhall, whose youngest son, Norman, a lad of 16, was fatally injured last July when his motorcycle collided with an auto which was rambling up the wrong side of the street. Young Norman had graduated from the West Technical High School in Salt Lake only the month before his death. He was one of the honor group in his class and much interested in radio and airplane building, and his father was planning to send him to Technology. Mr. and Mrs. Mendenhall have established a fund for the Boy Scouts of Salt Lake in memory of their son, who had taken an active part in the work of that organization.

Carl Allen is never one to expand on his own affairs and we have just learned that in addition to his real estate interests in New Rochelle, N. Y., the Skipper is President of the People's Bank for Savings in that suburban city. — Dan Patch called up when in Boston recently. For some months, Patch has been in Chicago where his firm, the Morton C. Tuttle Company, has been making business studies of the Montgomery-Ward Company. Patch reports seeing Durgin in Chicago and Archie Gardner in Toledo. We were especially glad of the latter piece of news as Archie is one of those secretive classmates who seldom, if ever, admit their continued existence to the Secretary. — FREDERICK H. HUNTER, *Secretary*, Box 11, West Roxbury, Mass. BURTON G. PHILBRICK, *Assistant Secretary*, 246 Stuart Street, Boston, Mass.

## 1903

Several members of the class have appeared in the public print recently showing activity in their particular lines and in some cases receiving considerable commendation.

*Electrical World* reports that Tuell has been made President of the General Public Service Corporation, a subsidiary of Stone and Webster. Tuell has been with Stone and Webster interests since 1902 and has held various executive positions as well as being operating head of various utility properties in the South, Middle West, and East. He has been President of the Michigan Electric Light Association. — Gilson, who has been Vice-President of the Manufacturers' Trust Company, New York City, has been placed in charge of the Trust Department of that institution. Previous to this, he had been associated with Spencer Trask and Company.

President Compton, who is Chairman of the President's Science Advisory Board, appointed Potter a member of the committee on Railway Research. This committee is coöperating with a committee of railroad executives in an effort to insure the railroads maximum benefits from utilization of modern science.

Livermore, Vice-President of the North American Mines, Incorporated, reports considerable activities in his industry and that carload shipments from mines of his company have recently been sent out from Cripple Creek, Colo.

Last fall Worcester, Mass., dedicated its new Memorial Auditorium. The architectural design submitted by Lucius W. Briggs of Worcester in association with Frederic Hirons was selected by the Jury of Awards as the winning design. Hirons was with '03 in the architectural course, winning the Rotch Traveling Scholarship. Following that he won several prizes in France and America and in 1909, associated with Ethan Allen Dennison, he was responsible for many notable designs of buildings and monuments.

Eleven members of the Class appeared at the Walker Memorial Saturday afternoon, February 17, for the Annual Alumni Dinner. Those present were: Comer, Gould, Peaslee, D. S. Wilson, F. B. Crosby, Howard, Gleason, Whitehead, Joyce, A. P. Rice, and J. A. Cushman. This is the largest number who have reported for several years, and in addition, Stiles, Nylen, Eustis, G. M. Green, and Livermore sent their regrets. It is the largest alumni gathering at an Annual Dinner and was one of the most enjoyable. — FREDERIC A. EUSTIS, *Secretary*, 131 State Street, Boston, Mass. JAMES A. CUSHMAN, *Assistant Secretary*, 89 Broad Street, Boston, Mass.

## 1905

George Rhodes, VI, wrote in January from New Orleans: "For the past six or seven years I have had to desert my old love, the power business. Ford, Bacon and Davis, Inc., of which I am a V. P. and a director, is not connected with any of the public utility holding companies which now control most of the power business. The holding companies generally own their own engineering subsidiaries and so the power business dried up for us long before the present depression.

"Most of my time has been spent in the design, construction, and operation of natural gas pipe lines with excursions into gasoline and oil lines. I was more or less intimately mixed up in the construction of some of the largest projects aggregating some 4,000 miles of pipe, from the smallest to the largest, and am now interested in the operation of about half that mileage.

"New work has been mighty scarce for the last two years, but operating problems have kept me from stagnating. Many of these problems have had to do with extensive revision of large gas sales and purchase contracts to meet changed economic conditions. Some of the basic deals cooked up seem simple enough until an attempt is made to put them in words of but a single meaning. Then the fun begins. As a result of this, whereases and hereinbefores mean more to me now than volts and amperes."

Both of Fred Pirie's, II, two boys have finished college. — Senior Prince, X, Cincinnati, writes: "For pastime in the summer I golf a little, boat a little, and in winter bridge a little and eat much too much. My waistline is beginning to assume unseemly proportions." — Sid Strickland's, IV, firm name is now Strickland and Strickland, the other being son Charles. Office still at 20 Newbury Street.

From Bertrand Johnson, III: "I have been with the Bureau of Mines all these long, weary years, and we have been moved three times in different parts of Washington.

"As for publications, I have long since stopped writing about tin. About 1930 I had a long report published describing the phosphate rock industry of the United States. Shortly after that, one describing the nitrogen industry. Last summer the Bureau published a 78-page report of mine on the potash industry as Economic Paper No. 16. This fall I worked out a method of estimating the phosphate rock production of the United States by 12-month periods, which has checked on the official figures for calendar years with an accuracy greater than 97%. The calculations are made monthly so that a 12-month moving total showing long-time trend can be plotted. Results are to be published in *American Fertilizer* for January 27, 1934.

"I was married in the summer of 1931 to Marion L. Humber of Georgia. In the summer of 1932 my wife presented me with a young son, which she insisted should be named after me, B. L. J., Jr. The youngster is now 18 months old and a whole lot wiser than I am.

"Charley Johnston paid us a visit last summer and Ralph Tarbett lives within a few blocks of us."

How many spotted Harry Donald's, III, letter in *Time* of January 29? Referring to the sea serpent recently seen in Lock Ness, he quoted Spalding's "Memorials of the Troubles in Scotland and England" about the monster in the River Don in 1635. What a scholar! — Bob Fowler, of Winthrop, says that his oldest boy is a sophomore at Worcester Polytechnic. — Arthur Abbott, VI, promises to be in Middletown soon to tell us about it. — Six bottles of Croft ale were found at your Secretary's door. It's good, and as the old man was just getting straightened out after a bad cold, it was especially good. Thanks, Burk.

From Frank Payne, XIII: "The plans of George Jones, II, Adolph Ortseifer, XIII, and myself certainly went astray last summer in getting the boys together at the World's Fair. I cannot make out why we fell down, but we certainly did! I wrote about 40 personal letters to the fellows I knew, and got some dandy replies, but in each and every case they could not make it.

"Charley Boggs, V, came on later in the summer, to a Chemical Conference. I got in some golf with him and had him out at the house for supper. I enjoyed his visit immensely, and so did my family. A few weeks after that, Ben Lindsly, III, came on from Oklahoma, and I met his charming wife and had lunch with Ben at the University Club. It seemed like old times to see him again and chat over the world's problems."

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Stanley Hyde, X, who seems to be still at the Puget Sound Navy Yard, Bremerton, Wash., says that "if you hold one job for 24 years, you can't furnish much class news." And he didn't. — Bruce Hill, IX, says: "Washington is not far from Pittsburgh but I never see Jim Lambie, II, who is more or less of a hermit." And Jim won't answer our letters. — Frank Chesterman's, VI, daughter, Elizabeth Newell, has announced her engagement to Ira Gorman Deitrick. Pa was so happy he sat right down and wrote us.

Jack Flynn, II, of Blaw-Knox, Pittsburgh, wrote: "I have been back in Pittsburgh for two years now, engaged entirely in domestic work. Lately I have been 'promoting' a new product with this company; namely, the manufacture and installation of asphalt plants for making hot and cold mix asphalt paving materials. The work, of course, is interesting and important enough, but the rewards for our engineering work must be expressed in sales, and sales are mighty few and far between. The prospect ahead is fairly bright, and to get any fun out of the work, or life itself, I am constantly 'discounting the future.'

"I never did get to India, by the way, as the President of my company died very suddenly while I was in the Far East, and I had to rush back to London to look after some legal matters which normally he would have taken care of. I stayed in England four or five months, and (don't let my 'wild Irish' ancestors know of this) found 'Old England' a delightful place to live in and made many pleasant contacts in London and a few valued friendships. England slid off the gold basis very gracefully and soon thereafter Pittsburgh banks began to crash and I came back to 'take my medicine' with the rest of you!"

Roll Prichard, II, wrote the middle of January: "I got your letter but the day after that was taken quite seriously ill and have been away from the office six weeks, having had a touch of pneumonia and am only back part time for a few weeks and then am going away as the Doctor tells me I ought not to expect to do any really hard work until the first of April."

Three Dartmouth deans, including Gordon Bill, I, Dean of the Faculty, selected the queen of the Dartmouth winter carnival at the culmination of the colorful outdoor evening celebration entitled "Arctic Antics." Didn't another member of the class once judge a bathing beauty contest? They should get together and compare notes.

Warren Loomis, X, in January was appointed by Mayor Mansfield of Boston to the post of superintendent of supplies. The mayor said his selection was made on recommendation of Professor William G. Morse of Harvard, director of the National Association of Purchasing Agents, who recently successfully advised Mayor La Guardia of New York to appoint Russell Forbes to a comparable position. He added: "I was looking for the best man I could find and I didn't care where he lived (Loomis lives in Needham). I picked him because he was the best man in the business."

For the three years following 1905 he was in Texas, as purchasing agent and superintendent of the railways department of a corporation affiliated with Stone and Webster. He returned to Boston in 1909 with an assignment to the purchasing department of Stone and Webster and in 1917, after successive promotions, he was made general purchasing agent.

Edward W. Washburn, V, Chief Chemist of the Bureau of Standards since 1926, died suddenly of a heart attack at his home in Washington on February 6. He was 52 years of age.

Born in Beatrice, Neb., on May 10, 1881, he was a graduate of the University of Nebraska and received a Ph.D. from the M.I.T. in 1908. He was a member of the faculty of the latter institution from 1908 to 1916, when he became Head of the Department of Ceramic Engineering at the University of Illinois. In 1922 he was appointed editor of the *International Critical Tables*, published under the direction of the National Research Council. He was a member of the National Academy of Sciences.

Washburn married Miss Sophie de Veer of Boston in 1910. She died two years ago. Four children survive him.

In the last year of the World War, Washburn served as vice-chairman and acting chairman of the chemistry division of the National Research Council. In 1922–1923 he was chairman. On several occasions he was a delegate to international conventions of chemists in Europe. He was chairman of the International Commission on Physico-Chemical Standards.

Washburn belonged to various scientific societies, also the Society of Mayflower Descendants, and the Phi Lambda Upsilon and Sigma Xi fraternities. His book, "Principles of Physical Chemistry," first issued in 1915, attained a second American edition in 1921 and a French edition in 1925. — ROSWELL DAVIS, *Secretary*, Wesleyan Station, Middletown, Conn. SIDNEY T. STRICKLAND, *Assistant Secretary*, 20 Newbury Street, Boston, Mass.

## 1907

A special effort was made by the Secretary to secure a good attendance of '07 men at the Alumni Home-Coming Dinner on February 17 by sending out 85 postal cards with paid reply cards to as many of our class who are located in New England, together with four men outside of that territory who like to know of such affairs as their business plans may make it possible to attend Boston assemblies. We received replies from 40 of the 85, not a bad percentage, and yet we are at a loss now, as always, to understand why a classmate fails to reply to such notices when return postage is all paid and nothing except a pen line and a signature is necessary, requiring possibly ten seconds plus the effort of mailing. However, no hard feelings. All class secretaries have the same experience and the same thought, and our class does much better in this respect than some others.

At any rate, the following men attended the February 17 gathering and enjoyed an evening of good fellowship, good food, good speaking, and good entertainment: Laurie Allen, Henry Alvord, Clinton C. Barker, George Crane, Ralph Hudson, Ed Lee, Alexander Macomber, Harry Moody, O. L. Peabody, Bob Rand, Don Robbins, Gilbert Small and his son, Oscar Starkweather, and Harold Wonson.

In returning reply cards relating to this event, John Frank in Chicago extended his best wishes to all the fellows and said that he and Sam Marx and Stud Leavell had a little get-together in Chicago in January. Also William F. Kimball said that he and his wife and daughter moved to Courtney Road, North Woodstock, N. H., in July, 1933. And Howard Palmer of Stoneham, Mass., says that during the past two years as a side-line, he has been contributing verse to the press. — Hud Hastings comments that outside of his regular work at Yale University, his most interesting job has been as Vice-President and chairman of the budget committee of the New Haven Community Chest. — Ralph Hudson is now in charge of Course IX (General Science and Engineering) at the Institute, and has published a new book on "Electronics." — Henry Alvord reports that his oldest daughter was married last August; he has two boys, one a sophomore at Northeastern University in Boston (where Henry is in charge of the civil engineering department), and one a freshman at Harvard.

It is sad that in nearly every issue of The Review nowadays we have to report the death of some classmate or a member of the family of a classmate. Unfortunately, this present issue is not an exception. On February 8, John B. Walker, 11-year-old son of Phil Walker of Whitinsville, Mass., was killed when he coasted under an automobile in that town. Of course, the Secretary wrote to Phil extending personal and class sympathy.

The following clipping is from the New York *Times* of December 14, 1933: "To hasten the employment of about 1,200 architects on the Historic American Buildings Survey in which he is interested, Secretary Ickes appointed a national advisory committee today to coöperate in formulating the plans and directing the project, which will be carried out under the civil works program.

"Four of the seven members of the committee, including the chairman, were named by the American Institute of Architects at the request of Mr. Ickes. The others were selected by the director of the Office of National Parks, Buildings, and Reservations.

"Dr. Leicester B. Holland, chief of the fine arts division of the Library of Congress and chairman of the American Institute of Architects committee on preservation of historic buildings, is the

*1907 Continued*

chairman of the new committee. The architects named by the Institute to assist him are John Gaw Meem of Santa Fe., N. M.; William G. Perry of Boston, and Albert Simons of Charleston, S. C. William Perry is a classmate of ours, and his office is at 141 Milk Street, Boston.

The *Montana Oil and Mining Journal* of January 20, 1934, has no less than three references to Carl Trauerman in important ways. It contains an article written by him, entitled "Gold and Silver in Coinage," it states that he has been appointed as one of the two Montana directors of the newly formed national Gold Mining Association of America, and it names him as consulting engineer of the Basin Gold Fields, Limited, which is developing a rich gold vein at Basin, Montana. — BRYANT NICHOLS, *Secretary*, 12 Newland Street, Auburndale, Mass. HAROLD S. WONSON, *Assistant Secretary*, Commonwealth Shoe and Leather Company, Whitman, Mass.

## 1909

The 1909–1934. Twenty-Fifth Reunion will be held June 22 to 24 at the Oyster Harbors Club, Osterville, Cape Cod, Mass.

This Club has entertained other Technology classes and is an ideal place to spend the week-end. The club house is a spacious building, modern, with every convenience for our comfort, and with many facilities for our enjoyment. Located near the water, it has its own swimming beach and a fine golf course adjoins the club house. We know you will enjoy going to this place. Bring the wife and the "kids". They will enjoy it, too.

The party starts on Friday evening and continues through the following Sunday. Two days will be all too short a time in which to renew old friendships and visit with your classmates and their families. "Jim" Finnie already has the dates in his little notebook, so we know that he will be there. How about yourself?

A few days ago the following letter came from John Mills, who is Director of Publication for the Bell Telephone Laboratories in New York City. "Duty to my publishers constrains me to submit the first note I have ever sent to an alumni magazine, although I read each month all the news of 1908–'09–'10 men which is printed in The Technology Review.

"Harcourt, Brace and Company are bringing out for me this month, 'Signals and Speech in Electrical Communication'. They describe it as 'a book in short, clearly written chapters, free from mathematics and diagrams, which is a readable exposition of the general principles — the why and how — of electrical transmission both by wire and by radio. It explains, correlates, and synthesizes, developing in lucid manner the real philosophy of the communication arts. From howling telephone to crystal clock, from dial telephones to the control dials of a radio studio, the book tells the remarkable story of electrical communication.'

"And they describe the author as 'an engineer with a score or more patents to his credit who was engaged for several years in research work in electrical communication'. By which they mean that I have been a member of the technical staff of Bell Telephone Laboratories since 1911, and for the first ten years was engaged in researches on problems in long distance telephony, both transcontinental and transatlantic. For the last ten years, however, I have been concerned with matters, first, of personnel and then of publication.

"What the outcome of this book will be I don't know. Its predecessor was called 'Letters of a Radio-Engineer to His Son'. But the son, after graduation from the University of Chicago, took up commercial photography."

G. A. Joslin, who maintains his office as a mining engineer at 1200 Rives-Strong Building in Los Angeles, has recently been on a six months' trip to Mexico examining mining properties.

Paul B. Lord, who is superintendent of the Santa Barbara unit of the American Smelting and Refining Company in the State of Chihuahua, Mexico, reports that while they have been obliged to materially reduce the scope of their operations, on account of low metal prices, they have fortunately not been obliged to shut down completely, and they are looking forward to improved conditions. During the winter Mrs. Lord has been living in Brookline in order to have the opportunity to be close to the two girls, who are attending school there, and he hopes that next summer he may come East himself on a vacation. We hope that Paul will plan to bring his wife and daughters to the Reunion.

The Boston *Transcript* of February 15 said:

"Mayo D. Hersey, former associate professor of engineering at M.I.T., has been appointed lecturer in engineering at Brown for the second semester, President Clarence A. Barbour of Brown announced today.

"One of the best known men in the field of frictional lubrication, Mr. Hersey has recently been in charge of one of the divisions of research of the Vacuum Oil Company. His new course of lectures will cover the development of lubrication, including a discussion of modern film theories." — CHARLES R. MAIN, *Secretary*, 201 Devonshire Street, Boston, Mass. PAUL M. WISWALL, *Assistant Secretary*, General Foods Corporation, 250 Park Avenue, New York, N. Y. MAURICE R. SCHARFF, *Assistant Secretary*, Main and Company, 1 Wall Street, New York, N. Y.

## 1910

We have a few letters for the notes this month, and the Secretary is grateful to those who did write, while wishing that more would feel so inclined.

F. P. Sargeant writes: "Your invitation for a news contribution, of course, cannot be disregarded. I wish I could send you an exciting tale of adventure or travel, but in the absence of such, the usual answers will suffice. As for the family, there are four: my wife and I, a daughter, Ruth, attending Randolph Macon College in Lynchburg, Va., and a son Frank, in Montclair (N. J.) Academy. Home address: 501 Highland Avenue, Upper Montclair, N. J. — After some 12 years in the Chicago Sales Office of the Worthington Pump and Machinery Corporation, I returned East four years ago to the Harrison, N. J., works of the same organization, where I am now located in the Condenser and Heater Division of the Engineering Department."

The following is from Carroll Shaw: "When I received your 'your-turn-to-write letter' about three weeks ago, I decided to delay answering it until I knew myself just what to say. For the past year I have been trying to do most of those things that one wants to do but can't when they are working on a regular job. Mrs. Shaw and I went to Florida last winter in the middle of the bank-closing panic and saw what havoc that caused in both the business and pleasure sides of Florida's delightful winter season. We went to Chicago in July and I spent three weeks in Canada in August on a camping tour by myself, going from Quebec to North Bay and then up into the Temagami country. — I have just recently taken a position with the Chrysler Motors Corporation and am located at the Dodge Brothers plant. This is a distinct departure from my former line of work which has been almost entirely with public utilities, but I find that almost the same problems exist in both lines when you get into the picture a little. At the present time I am working with the application of the Automobile Code and the Employee Representation Plan as it relates to employee problems."

Henry Schumann-Heink is following a career that is not a usual one for Tech men. He says: "Your very interesting and amusing letter of December 29, 1933, reached me after it was forwarded to El Paso, where I was around New Year's. I have not answered before because I was anxious to do so personally, and perhaps somewhat at length in the hope that some of the information I am about to impart will be material you can make use of in your publication.

"But before I go into that, will you kindly change my address in your files from Grossmont, San Diego County, Calif., to read 800 Orange Avenue, Coronado Beach, Calif. That is at present my residence address, even though I am on the road a great deal. But in any event, mail sent there will be promptly forwarded to me and is sure to reach me. Now to the story.

"For the past three years, ever since the economic upheaval and the market took me for every last cent I had accumulated, and, in passing, I may say that it was a very great deal, I turned to my hobby for consolation and new inspiration and made music my profession. Not that that field like all others was not overcrowded and highly competitive, still it did my heart and soul a world of

*1910 Continued*

good to live in that atmosphere. In due course, I organized a dance orchestra, and am about ready to conquer my worlds with it. So far I have limited my activities to California, and but recently played hotel engagements outside of the borders of California, and hope to be on my way East within the next few weeks, ultimately landing in the Far East. So here is hope that Boston ere long will be in my itinerary. My conception of really fine dance music is that it must be more in the nature of fine, rhythmic, artistic suggestion to the dancers rather than be conspicuous by noise and claptrap. I have introduced a unique and novel instrumentation which I am sure will meet with great popular appeal. Naturally, I am playing all the latest dance numbers, especially arranged for my instrumentation, and so far, am happy to state have had some very fine commendations from every hotel manager where I played. It is taken for granted that my music as music is perfect, and even in the minds of many, they anticipate something unusual, and that is precisely what I am endeavoring to give them; so far, I am happy to say, have not had any expressions of disappointment from any source whatever.

"At the very start, there was grave doubt in my mind whether or not the people at large would take kindly to my going into the popular and lighter field of musical entertainment in the light of the wonderful name my dear mother made for herself as one of the greatest exponents of the classics, but happily the public has been most kind to me, and evidently likes my work. I can hardly wait for the day when I will be East, and be put to the real test. . . .

"While the preceding page may seem filled with self praise and sound rather conceited, still I am sure that you will take my word that it is not intended that way, but rather my endeavor to give you my honest views in the experiences that I have had. . . .

"In my broadcasts for the Union Oil Company of California over the Pacific Coast Network of NBC, the good name which my mother bestowed upon me caused thousands of people to dial in with the result that, according to Mr. Donald Forker, head of the advertising and publicity department of the Union Oil Company, they received more complimentary fan mail from one of my broadcasts than they had received for months preceding this event. All this, of course, is very flattering to me, and seems to indicate that I do fill a place in the economic scheme of things in this line. So here is hope that some day soon you may be able to judge for yourself just how my dance music appeals to you." — DUDLEY CLAPP, *Secretary*, 40 Water Street, East Cambridge, Mass.

## 1911

Our contribution to this year's record-breaking Alumni Dinner, rightfully returned this year to Walker Memorial and the fine food of Bert Bridges plus the home touch of a student athletic program before dinner, was an attendance of 18 members of the class: Ralph Adams, Obie Clark, Marsh Comstock, Art Coupal, Ed Crowley, Dennie Denison, Cal Eldred, Russ Francis, Ned Hall, Jack Herlihy, Hal Jenks, M. J. Lowenberg, Charlie McManus, Fat Merrill, Chet Pepper, Carl Richmond, Emmons Whitcomb, and A. O. Wilson. Although my duties as cheer-leader placed me at the head table, before and during the dinner I had several opportunities to chat with the boys, and the general consensus of opinion seemed to be that things looked promising. I got no further, however, on my quest for grandchildren. How many of you have any?

Our sympathy goes to Charlie McManus, I, whose mother died in late January. Although she lived to a ripe old age, Charlie said it was none the less hard to lose her. — A month or so before that Donald Barton, XII, was called to Boston from Houston, Texas, to attend the funeral of his father, Professor George C. Barton '80, so you have our sympathy, Don.

Letters from classmates are slowly but surely, unless the trend reverses, approaching an irreducible minimum, but from the Alumni Office we learn that Austin Brooks, VI, has been located at Madden Dam, Canal Zone; Walter Hildebrand, I, is now with Testele Manufacturing Company, Halstead and Sheffield Streets, Chicago; Phil Kerr, II, is at 3203-38th Street, N. W., Washington; and Bill West, II, is at 612 North Michigan Avenue, Chicago.

It was my particular good fortune and delight to have a 'phone call from I. W. (Bunnie) Wilson, XIV, Vice-President of the Aluminum Company of America, Pittsburgh, Pa., one day in early February saying he was in New York for 24 hours and inviting me to dine with him. We had a most enjoyable evening together, our reminiscing, of course, being particularly delightful. He and Mrs. Wilson have three daughters, ranging in age from four to 13. As we approached the St. Moritz-on-the-Park later in the evening, Bunnie said that curiously enough just a year ago to the day he and Mrs. Wilson during a European trip had approached St. Moritz in Switzerland.

While we were in the throes of our mid-February snowstorm in New York, I received a tantalizing yet welcome postcard from Ed Vose, X, from Jamaica, British West Indies, saying: "Stopping here on a Raymond and Whitcomb cruise. Temperature about 90. Wonderful weather."

I had a letter from Aleck Yereance, XI, in early February, in which he said: "No doubt you will be surprised to learn that in spite of the fact that I told you we liked this country location (Eatontown, N. J.), we are to leave about April 1. The answer is that I have nothing to do with it; I have been transferred to a new Branch Office of the Prudential, as assistant manager. And the office is to be located in none other than Boston, Mass.

"After all these years I am to go back there and I feel very fortunate that it is not some other of the offices to be opened this year in much less attractive places. I am looking forward to being there, much as I regret leaving here. As soon as I find a location, I will give you our new home address for your records."

Included in Aleck's letter, which primarily was to thank me for having forwarded a letter addressed to him in my care by a fraternity brother of his, Harry Fox '12, now in Jamaica, was an interesting war episode: "It was a treat to hear from Harry; I had not seen him or had a word since 1920. During the War he was adjutant to the C. R. E. of the Fifth British Army, when my regiment was assigned to their area. He located me in the trenches, took me back in style (in a Sunbeam) for a good dinner at their headquarters mess in a French château. The next Wednesday (it was Saturday I had dinner with him and returned to my bivvy in a side-car, finally stumbling across the reserve barbed wire in front of a British battery of 18-pounders to our disgust) he was to come up for a meal with us. Early on Wednesday we were pulled out to go on the American front (St. Mihiel) without a chance to communicate with Harry.

"He came up and wandered around in the darkness for an hour or so looking for us unsuccessfully, then returned to our headquarters. When he reached there he found that in his absence a Jerry aviator had been over and dropped several bombs on his mess. Some had been killed and several wounded. The shock of learning what he had missed was so great that he collapsed (the culmination of four years of strain) and did not come to until he had reached England on a hospital ship.

"When I saw him here after the War — and by that time he had recovered so that it seemed a good joke — he explained the sequel to our missed dinner date. That was the first I had heard of it."

When these notes appear, the Easter season will be in the immediate offing and Mistress Spring will grace our midst. What joy would come to my heart if the reawakening urge engendered then in mankind took the form of a spirited "Write to Dennie" campaign among classmates. So be it! For myself, I plan to leave New York in late May for Douglas Hill, where about mid-June friend wife and I will reopen for the summer season our Douglas Hill Inn. C'm' up and see us sometime! — ORVILLE B. DENISON, *Secretary*, St. Moritz-on-the-Park, 50 Central Park South, New York, N. Y. JOHN A. HERLIHY, *Assistant Secretary*, 588 Riverside Avenue, Medford, Mass.

## 1913

Apparently the unusual winter has caused many classmates to hibernate, for scarcely any news has crossed the Secretary's desk. The following item is gleaned from a fraternity bulletin under the heading of Portland, Ore.: "On October 1, George H. Jones opened his own office in the Woodlark building, where, associated with Harold D. Marsh, he will practice architecture. Jones has, for some years past, been the architect for the Portland school board."

*1913 Continued*

Several classmates were seen at the recent alumni dinner. Your Secretary, finding that the space reserved for 1913 was inadequate, moved to one of the general tables and thus cannot accurately list all classmates who were present. Any omissions are thus excused. Joe Oppenheim and his son were early arrivals. We discovered Charley Thompson hiding in the gymnasium. Alden was at the reunion making his first recent appearance. Ed Hurst was on hand and it was reported that Ken Hamilton was around. A pleasant evening was enjoyed. Others were reported to have been in attendance, according to the reservation list, but we did not have the good fortune to see them. — ARTHUR L. TOWNSEND, *Secretary*, Room 3-435, M. I. T., Cambridge, Mass.

## 1914

The real item of note of the month is the Alumni Dinner held at Walker Memorial on February 17. Following our usual custom we held a pre-dinner meeting. This meeting was held at Riverbank Court with an attendance of 26. The principal subject discussed at this enthusiastic meeting was our Twenty-Year Reunion. The date was tentatively set for June 9 and 10, and the place the Oyster Harbors Club, Cape Cod. The reunion will be stag.

After the meeting we marched to Walker Memorial and after making certain that all present knew the Class of '14 was present, by a parade around the hall, and frequent sounding of a chemical-warfare gas alarm, we settled down to enjoy the largest-attended Alumni Dinner since the famous "Mr. Smith" dinner of 1919. Considerable rivalry among the classes added to the enthusiasm and in recognition of the size of the attendance and renewed enthusiasm appropriate commendatory resolutions were passed and a further resolve that the Class of 1914, finding it no longer necessary to take upon itself the stimulation of Technology spirit at Alumni Dinners, return to its erstwhile decorum for future dinners. Those enjoying the dinner enthusiasm were Atwood, Blakeley, Blomquist, Chase, Clisham, Corney, Crocker, Devine, Eberhardt, Fales, Favorite, Gazarian, Goldenberg, Hamilton, Horton, Hull, MacKenzie, Mann, Morrison, Stanyon, Sweet, H. D. Swift, Trufant, C. H. Wilkins, H. S. Wilkins, and Richmond.

"Spellbinder Fales" is the new nickname being applied hereabouts to Associate Professor Dean A. Fales, of the Department of Mechanical Engineering at M.I.T. No, it is not because of his seemingly inexhaustible supply of anecdotes, but because on the evening of February 13 he held the New England Section of the Society of Automotive Engineers spellbound for two hours on the subject of "Novel Features of the New Automobile Models". The meeting also enjoyed the largest attendance of any meeting of the section in recent years. According to those attending the meeting there was little Dean left unsaid about the tricks and gadgets of the new models.

Cranberry King Trufant never appears at a '14 meeting without some news item. This time we learn that another of our class has joined the financier's group. He is Sam Breck, who is Town Treasurer of Middleboro, Mass. — How Taylor has left his natural habitat of Ann Arbor, Mich., and is now at the American Community School of the American University, at Beirut, Syria. — Just to keep Sousa Brooks stirred up on his pet peeve of patents, another is reported this month. It has been issued to Philip Currier for an electric-valve-converting system and excitation apparatus for it.

We have learned from C. W. Ricker, who is Professor of Electrical Engineering at Tulane University, in New Orleans, that he went up to Chicago this summer to see the Century of Progress and while there contracted appendicitis. Just how this came about is uncertain. Rick may have tried to see all the sights in too short a time and the exertion was too much. In any event he came through the illness very readily and writes that he is now playing tennis again while the rest of us are out shoveling snowdrifts.

When the tempest of the air mail contracts broke we naturally wondered how it was going to affect Dinny Chatfield. In answer to this inquiry Dinny showed his usual careful, noncommittal attitude and replied that if certain things happened, it was going to be favorable for the aircraft industry, and, if they didn't, things were not going to be so good. You, therefore, have it on Dinny's own authority just what the future of aircraft manufacturing is going to be in this country. Guess we will have to call on Dinny to tell us all about it at the reunion.

E. W. Mann has joined the Boston staff of the Dictaphone Company. It was very pleasant to see him around again at the 1914 Dinner. — HAROLD B. RICHMOND, *Secretary*, 30 Swan Road, Winchester, Mass. GEORGE K. PERLEY, *Assistant Secretary*, 21 Vista Way, Port Washington, N. Y.

## 1915

As becomes a technical and engineering journal, this month's notes are devoted to the following interesting account of the work of one of our classmates, T. C. Hsi, I, who is Chief of the Engineering and Labor Relief Division of the National Flood Relief Commission in China. No doubt many of you fellows remember Hsi and I am sure we are all pleased and proud of the splendid work he has done. The figures he gives are startling and give us some idea, even at this distance, of the horrors of the floods and of the gigantic tasks involved in his work.

From a lengthy report on "Dykes and Other Works Constructed by National Flood Relief Commission", published at Shanghai in November, 1932, reported by Hsi, I quote as follows. "Yangtze River Floods in 1931" was the heading of the principal part of this report, which reads: "The year 1931 was the worst in Republican China. There were internal dissensions, rampant banditry, foreign aggression, and the worst flood in 61 years. This combination would have destroyed the life of any nation, but thanks to the unusual shock-absorbing qualities of China, this great nation has stood the combined attack and come out whole, although not unhurt. In 1870 the Hankow gauge registered a height of 50.5 feet of water. At the same place in 1931, the gauge showed 53.6 feet. On August 19, 1931, the discharge of the Yangtze River at Hankow was 2,350,000 cubic feet per second. This is the greatest discharge on record for the river. Hankow was inundated to a general depth of five and a half feet. The flood extended from the seacoast in North Krangsu Province through the Grand Canal — Hwai River country to Chin-Kiang on the Yangtze River to Shasi in Hupeh Province, a total distance of 900 miles. In some places the flood area was 100 miles wide and covered an area of 42,000 square miles in the central and best parts of China. Twenty-three million lives were affected. The most serious disturbance was over an area equal to New York State or New England. The energetic Finance Minister put through a deal in record-breaking time whereby 450,000 tons of American wheat were loaned to China for flood relief, repayable in five years. An Engineering and Labor Commission was organized for the express purpose of repairing or rebuilding the damaged or destroyed dykes with refugee labor. The American wheat provided wages in kind, while the contributed cash gave them shelter and tools." Hsi gives the following summary: (1) Kilometers of dykes restored, 7,400; (2) Kilometers of drainage canal dug, 288; (3) Number of persons employed and given relief work, 1,400,000; (4) Earth work done, 115,000,000 cubic meters; (5) Amount paid laborers, about 240,000 tons of wheat; (6) Number of field staff, 4,620; (7) Cost of operation, including cost of locally made tools and materials, about $1,730,000; (8) Number of members taken by red bandits, 50; released, 47; held, 3. This illuminating report gives us a picture of conditions in the Far East which we probably never have realized. It's a tribute to Hsi for the noble work he did for his countrymen.

What am I going to write about next month? — AZEL W. MACK, *Secretary*, 72 Charles Street, Malden, Mass.

## 1916

Jap Carr was good enough to send in the following recently: "I am feeling fine and finding things very interesting at present. My two principal activities at present are: managing the J. B. Carr Biscuit Company and finishing up a very fine new plant which we have just built. This has made my year a busy one and 1934 will be equally as busy hustling for orders to keep the new plant working. For competition of my time, we have a fine healthy three-months-old boy whom we have taken for adoption. We have had him for six weeks and it certainly has added plenty of interest to our life. In the

*1916 Continued*

autumn of 1932 my wife and I went to France and England for a combination vacation and inspection of biscuit machinery which we proposed purchasing. This was a very enjoyable trip, as it was our first visit to these countries. I have not been in touch with many members of our class, although Ed Weissbach writes me that he is with Louis Klander, consulting engineer, in Philadelphia doing special work just now on department store power plants."

Our classmate, Gordon M. Fair, associate professor of sanitary engineering at Harvard, has just perfected a new mechanical nose named the osmoscope, made to smell impurities in drinking water. This device is a smell meter attached to the nose and saves it from the fatigue of olfactory organs that ordinarily dulls the keenness of smell and limits practical use. Some sniffer, I would say.

Your Secretary was sorry to miss the annual alumni banquet at Walker Memorial through illness, but he understands that there were about 10 members of our class present: Steve Berke, Mark Aaronson, Murray Horwood, Emory Kemp, and Rusty White, to mention a few.

As usual I would appreciate it very much if other members of the class would follow Jap's example above and send me some class news. — HENRY B. SHEPARD, *Secretary*, 269 Highland Avenue, West Newton, Mass. CHARLES W. LOOMIS, *Assistant Secretary*, Bemis Bro. Bag Company, Memphis, Tenn.

## 1917

This gossip column has carried very little appeal for unsolicited contributions so that when a good long newsy letter comes in, the poor columnist feels especially grateful for the consideration shown him and dances on his desk with joy. Here is one from Frank Peacock that should be copied and mailed to all members of the class of 1917 as an indication of what can be done. We might, in fact, offer a prize for the author who is able to better it. Several prizes occur but the reunion seems the only proper place for their presentation and for that matter for a description. Says Frank:

"Was in Chicago from 1922 to 1932 — most of that time as chief engineer for the Harza Engineering Company. We handled all the hydroelectric work for the Insull interests. While there, had charge of several of the more interesting developments in this field for years. Among them were Dix Dam — at that time the largest rock fill dam in the world — a power house on pillars on top of a dam — so that a 50-foot flood would pass under the power house, introduced the Kaplan turbines to America — and wound up with the Eagle Pass development in Texas, where world records for hydro plant efficiencies were attained.

"As you know, Insull went broke; so did I. So I went to Denver to be a partner in a machinery sales agency. But 1932 was a poor year so we didn't hang on. Just missed seeing Cy Medding and Lobdell out there. But did see Al Moody and we had some good times together. Heard that Dike Young (whom I saw often in Chicago) had gone West.

"Last May, when in Chicago, got a hurry up call to help out the Woodward Governor Company, manufacturers of governors for water wheels, of Rockford, Ill. So came out to Rockford, my home town, expecting to be here only a month. The up-shot has been that I am located here, and it looks rather permanent. Am in charge of the engineering department now and have been promised a partnership in the business.

"Have been busy as can be developing a new line of governors for diesel and steam engines and steam turbines. The diesel engine governors are just shaping up. The trouble lies in the fact that we have orders for over 50 of these governors and a promise of 40 more, but no governors decided upon until today. It's a little fellow — but regulates to one revolution in a thousand. In other words, we think it's good. The Navy is getting 18 for submarines, the new Union Pacific train will have two, and we hope many others. When this gets going, am going to send one down to Tech for the boys to play with. On our large diesel governors we guarantee to keep a unit so accurately governed that driving an AC generator, it will not vary more than 10 seconds a day when operating an electric clock.

"Well, Ray, I've raved a lot about our company, but our product is good. As for myself, have been a grass widower since 1929. Have a boy in high school now, so expect he'll be at Tech in 1937. He wants to take chemistry, so I presume you'll say 'God forbid'. Oh well, he could do worse than being a technical man. Sincerely hope that things are breaking in good shape for you. Give my regards to Lobby and to any of the other '17 fellows you may see."

Plastered all over the Bulletin Board of The Chemists' Club in New York is the name of R. O. Loengard as a member of various committees, groups of officers, and so on. Dick claims, however, that his chemical activities are in the office rather than the plant or laboratory, for the Chromium Corporation is not engaged primarily in actual processing at the present time but is, rather, specializing in proper attention to the group of patents which it owns and controls and under which many of the country's best industries are licensed.

During a short stop at the Deschler in Columbus, Dick almost literally ran into Gus Farnsworth who had the adjoining room and who accompanied him on his return trip to New York. Much that Gus told appeared in this column last month and the gentle reader is referred back there for detail as it is against the editorial policy of The Review to re-hash or repeat scientific matter previously published.

The Class of 1917 received due recognition for good attendance at the Alumni Dinner and the '17 banner hung in special glory only dimmed by the similar treatment of the emblem of 1914, the class that distinguished itself by undignified and uproarious hilarity and actually had the poor taste to appear to be enjoying the Dinner. Fortunately, neither the speakers nor the audience knew that their chief noise-making instrument was an official gas alarm.

Singled for distinction of the more than 30 men from 1917 was Lieut. Commander W. A. Sullivan who had received his orders to sail for a three-year stay in Shanghai and who expected to leave within the week. As usual, Ted Bernard gathered in those of the faithful who ordered their tickets in advance and held a Stein Song rehearsal before the Dinner, the result being that the song was sung with much glee. Lucius Tuttle Hill sprang into prominence and for the first time in his career led a class cheer; and with such success as promptly to be elected official cheer leader, an honor which he accepted with his usual modest grace. Those signing the roster included: Stanley M. Lane, Clifford E. Lansil, Kenneth E. Bell, William H. McAdams, G. J. McDougall, R. W. Logan, Harold F. Powers, Joseph Gargan, Arthur E. Gilmour, Charles T. Gilliard, K. W. Childs, Thomas F. O'Brien, Frederick A. Stearns, Alfred J. Ferretti, E. A. Gramstorff, H. J. McDonald, Irving B. Crosby, Hamilton Wood, R. H. Blanchard, L. P. Sanborn, J. C. E. Gramstorff, Harrison P. Eddy, W. W. Rausch, H. V. Chisholm, W. A. Sullivan, Frederick Bernard, Larry Gardner, Raymond Stevens, J. E. Doherty, Lucius T. Hill. — RAYMOND STEVENS, *Secretary*, 30 Charles River Road, Cambridge, Mass.

## 1918

To the Home-Coming Alumni banquet, elsewhere described in this issue, journeyed classmates R. B. Wills, H. E. Richards, C. H. Watt, the Howard twins, W. S. McGuire, H. P. Kilgore, C. E. Tucker, H. S. Gleason, G. W. Elz, R. H. Smith, B. M. Greely, G. D. Ekwall (in full clerics), R. P. Miller, and myself. It was a most satisfying occasion, gastronomically, intellectually, and socially.

Early in February ye oulde secretary shared a pleasant lunch hour with some of the New York boys; to wit, Mal Eales, Walt Robinson, Granny Smith, Pete Harrall, and Bill Costello. Most exciting of the news which we extracted, by a process which can only be described as leakage, was Granny Smith's flight to Miami, whither he won a $50 prize in the air races. Since gold would have weighted down the plane unduly, he accepted green backs and flew home with another blessing on the old rabbit's foot watch charm. — Under pressure, Pete divulged the secret of his sub-zero navigation; he doesn't use chains in driving, he uses his head.

At our ten-year reunion a Board of Governors was elected to govern the class for five years; i.e., until our 15-year reunion. Since no 15-year reunion was held, and therefore no other arrangements were made, this board has continued to function. The New York mem-

*1918 Continued*

bers of this board have recently met and elected for Gotham the following officers to serve one year with the thought that new blood injected into the class activities will result in revived enthusiasm. These officers are: Granville B. Smith, President; J. Everett Rowe, Vice-President; Clarence C. Fuller, Secretary; and Walter H. Robertson, Assistant Secretary.

Shorty Carr thoughtfully sent along news of his own activities together with peripheral embroidery from the patterns of other classmates. Sez he: "January 1 of this year a new company was formed to take over the sales of the organization of which I have been in charge. The new company is known as the International Paper Products Corporation, and I am listed in the capacity of sales manager. We sell the output of the George and Sherrard Paper Company and some of the products of Bagpak, Inc. The George and Sherrard Paper Company's plant is located at Camden, Ark., whereas Bagpak's plant is at Philadelphia, Pa. In both cases the sales represent purely heavy-duty bags such as are used in the cement, plaster, gypsum, and miscellaneous fields.

"It has been my pleasure to have luncheon a few times during this past winter with Sax Fletcher, Bill Foster, and Mal Eales when we discussed various classmates. You undoubtedly have heard from Mal of the new line-up of the New York crowd of our class as refers to the election of Granny Smith et al to supervise our local activities.

"I occasionally meet Pete Sanger on the street, and not long ago was delighted to have a call from Byron Cleveland. Byron is still very active with the Smith and Winchester Manufacturing Company, makers of paper mill equipment, as well as heading up the J. H. Horne and Sons Company of Lawrence, Mass., the latter company also being manufacturers of paper mill equipment.

"I saw Phil Dinkins not long ago. He apparently has been very successful with the American Cyanamid and Chemical Corporation, and if my impression is correct, he is now Vice-President in charge of American Cyanamid Sales. — Donn Burton gets in touch with me once in a while in connection with some insurance policies which he wrote on some of our chattels."

Ray Miller, tub-side weight 170 pounds, writes from the Salem office of the New England Mutual Insurance Company: "There is no five o'clock whistle at this office. No whistle at any time. Just work as long as you wish — up to 11 P.M. (out of the office). Here's a thought though — most of us don't like to write about ourselves, so play the 'retiring violet'. Hence let me tell the brethren that Bob Gidley is in Waxahachie, Texas, 708 West Marvin Street, and likes the winter weather down there and that he is in a strange country and would appreciate knowing what Tech men are within hailing distance. Please ask them to welcome him to their territory. He drove down there in August, 1933. — If you will drop a post card once in a while, I will be reminded to edit a few remarks and keep the printer busy."

Under the date line of December 24, 1933, in the Boston *Herald*, we read: "Mayor-elect Frederick W. Mansfield yesterday announced the appointment of the principal members of his office staff, including his secretary and seven assistant secretaries. . . . Appointed are . . . and Herbert L. McNary of Dorchester, author, playwright, and short story writer.

"McNary, in addition to being an assistant secretary to the new mayor, will also hold the post of chief of the licensing bureau, and as such will be city censor of all stage and screen productions. In this post he succeeds Stanton R. White of Jamaica Plain.

" 'Under him,' said the Mansfield statement, announcing the appointments, 'the citizens of Boston will be sure of a clean stage.'

"McNary, who is 37, makes his home with his wife and two children at 1044 Adams Street, Dorchester. He was born in South Boston, and after graduation from Boston Latin and M.I.T., took post-graduate courses at Harvard and Boston University.

"He is author of many stories that have appeared in national publications, among them *Collier's Magazine* and the *Saturday Evening Post*. Two of his plays have been produced by the Whalom Park Stock Company in Fitchburg, said to be the oldest summer stock company in the country. These same plays are now in preparation in New York.

"McNary is the son of John T. McNary, former City of Boston paymaster, and old-time actor, who played supporting rôles to such stage figures as Booth and Barrett and many other old favorites.

"Queried last night as to his stand on censorship, McNary said he had been informed of the appointment only yesterday and found it somewhat difficult to decide on any general policy for publication on such brief notice.

" 'I am a warm admirer of Mr. Casey, the former city censor,' he said, 'and if I can live up to his policies, I will feel well satisfied. My father, through his stage connections and his work at City Hall, was a close friend of Mr. Casey, and because of this association and my own interest in the theater, I have come to know him and be familiar with his work.

" 'Having had the highest regard for Mr. Casey and the policy he established for the stage in Boston, I shall be more than satisfied if I can sustain the reputation he had.' McNary said he was not acquainted with the present censor and could not speak so intimately of his work.

"Asked whether he had any set opinion or policy toward the works of such a writer as Eugene O'Neill, he said, 'I think each play needs to be considered separately, on its own merits. I don't think it right or sensible to ban any particular author, and I think the mayor will agree with me that there would be no justification in declaring war on Mr. O'Neill or any other playwright. My own idea is that the type of people you want to protect wouldn't go to a play of Eugene O'Neill. They can get plenty of the thing they're looking for from the books down at the corner store.

" 'Each play would be considered in itself, and I would want to coöperate and consult with the producers as far as possible in every case.' As to burlesque, McNary said that in this case also he had no set policies other than that he did not intend to 'revolutionize' stage standards and on the other hand did not believe in 'letting down the bars completely.'

"He said: 'Mr. Mansfield was elected on a platform of clean government, and it is a safe assumption that he thinks Boston ought to have a clean stage. I think the great popularity enjoyed here by the movie "Little Women" proves conclusively that the public wants something clean.'

"McNary is President of the Dorchester Lower Mills Civic Improvement Association, and Treasurer of the Ward 17 Democratic Club." Thus does Course XV widen its horizon of activities. — F. ALEXANDER MAGOUN, *Secretary*, Room 4–136, M.I.T., Cambridge, Mass. GRETCHEN PALMER, *Assistant Secretary*, The Thomas School, The Wilson Road, Rowayton, Conn.

## 1920

A business engagement prevented me from attending the Alumni Dinner last week but the Class of 1920 was ably represented by the following: Jim Gibson, Ed Ryer, Perc Bugbee, Roger McNear, Jack Kellar, Bud Cofren, John Nalle, Jimmy Moir, Ken Newhall, Donald Mitsch, Howard Williams, Frank Maconi, Albert Edson, W. P. Hooper, A. A. Fraser, Walt Sherbrooke. Reports from several of those present indicate that it was one of the most successful alumni gatherings in many years and that the boys thoroughly enjoyed this impromptu class reunion.

Irving Brown has moved from Buffalo to Cincinnati, address 1342 East McMillan Street. Chick Dana's new address is Boulder Road, Weston, Mass., Chick having moved from the neighboring town of Wellesley. Fraser Moffat is now located at 309 Grand Avenue, South Pasadena, Calif. M. S. Sanders has gone to Wytheville, Va. Why, we don't know. Johnny Rockefeller may now be reached at 72 Washington Street, New York City.

Your Secretary had hoped that with the lifting of the depression there would be a corresponding rise in the amount of news from classmates. He is, however, decidedly disappointed but would like to point out that so far as he can gather, there are absolutely no code restrictions prohibiting correspondence with your long-suffering Secretary. — HAROLD BUGBEE, *Secretary*, 7 Dartmouth Street, Winchester, Mass.

## 1921

It is with a heavy heart that we perform the unpleasant duty of recording the passing of a member of the class.

*1921 Continued*

William Patrick Corbett died suddenly on January 9 at his home, 50 Walnut Street, Somerville, Mass., at the age of 34.

Known as one of the youngest representatives ever elected in Massachusetts, he had served two terms in the State legislature. To our Class, Willie Corbett will always be remembered for the outstanding athletic record he established during our undergraduate days.

He was the son of Mr. and Mrs. Martin P. Corbett and was born in Somerville on March 13, 1899. He prepared for the Institute at Somerville High School. At Technology he was a member of the M. I. T. A. A., the Mechanical Engineering Society, the Aero Club, and the Catholic Club. For one year he served as assistant physical instructor. He was captain of the boxing team for two years, coach of the team for two years, and an intercollegiate boxing champion. It was in boxing that he won a number of New England amateur and national boxing titles, holding the national amateur championships in two divisions for three years.

Following receipt of his degree in Mechanical Engineering from Technology, he attended the Harvard Graduate School of Business Administration for two years and later went to Washington and Lee University, where he received the LL.B. degree. For the past seven years, he has been an attorney at law and member of the General Court, Boston, and has been associated with Attorney Thomas C. O'Brien, former district attorney of Suffolk County.

He is survived by his mother, three sisters, and two brothers to whom we extend sincerest sympathy on behalf of the Class. — RAYMOND A. ST. LAURENT, *Secretary*, Rogers Paper Manufacturing Company, South Manchester, Conn. CAROLE A. CLARKE, *Assistant Secretary*, 10 University Avenue, Chatham, N. J.

## 1923

Bill Scofield accounts for a recent change in address as follows: "My connection with the Lincoln Gas Coal Company terminated November 31 of last year, and, on the following day, I entered the employ of the Pittsburgh Coal Company. This change necessitated my locating in Albany and we moved from Hackensack the latter part of December. As you may recall, we previously lived here for a period of about seven years so that it is just like getting back home to be with our old friends and acquaintances again. Am engaged in selling and am glad to get back on the old stamping ground. As to family affairs, I am the proud possessor of a son and daughter, six and three years old, respectively. They are quite a pair and we would love to show them off to any of the boys who might have occasion to call in this vicinity. Please broadcast this invitation."

Walter M. Webster, XIII, recently moved his residence from Lawrence to Andover, Mass. He reports that he is still working as a member of the firm of H. K. Webster Company, of Lawrence, manufacturers of grain products.

G. E. Danielson, III, is still with the Sullivan Machinery Company as salesman. Two years ago he left Lima, Peru, where he had been located for several years, and came to Mexico City to become manager of the office there. His company sells a lot of drills and compressors to Mexican mining companies. His condition at present is excellent, although a year ago he had to take a vacation and go into a Denver hospital, where he was fully restored to normal.

Pete Pratt, XV, writes to announce the arrival of Frances Sheridan, a daughter, on January 27. Pete also has a boy, Ben Cabell, age 4. Pete is with the Postum Cereal Company at Battle Creek, Mich., and he says he still aspires to be a "Cereal King."

The following is from a letter from Mal Carey, III: "Last summer I was in the employ of the Aluminum Company of Canada at their plant in Shawinigan Falls, P. Q. During the summer we received the news that the plant was to be closed down. This left us all (the plant personnel) facing a change of some sort. For some years I had been considering a change to another industry and no better time could be found for the change. In July I accepted a proposition made me by the International Nickel Company at Copper Cliff, Ontario. I left the Aluminum Company at the end of August and commenced my new duties with the Nickel Company on September 6. I am connected with the Converter Department of the Copper Cliff smelter, and am at present going through a course of sprouts to gain practical experience in converter practice. . . . I was certainly glad to be able to attend the reunion last spring. If I have a shekel in the old sock, I'll be on hand at the next one, too."

Major W. E. R. Covell, I, who is at the Panama Canal, as recorded in these columns not long ago, writes: "We just had a short but delightful visit from President Compton. He arrived on the morning of Monday, February 5, on the S.S. *Kungsholm*. Meade Bolton '16 (President of the Technology Club of Panama) with his usual accommodating and happy spirit, left the Union Club in Panama City at one A.M., caught the two A.M. 'scooter' of the Panama Railroad, and arrived in Colon about 3:30 so as to be on hand when the steamer arrived at five A.M. Being an Army officer, I was able to fly over at seven A.M.

"At any rate, we got together and met Dr. and Mrs. Compton at the boat about eight o'clock. As we had only about eight hours, we kept both of them running in an earnest effort to show them all the Panama Canal in one day, which, incidentally, is an impossible job.

"However, we did show them the Atlantic Locks and ran an exhibition spilling for them at the Gatun Spillway. We then caught the train from Gatun on the Atlantic side to Gamboa, in the middle of the Isthmus, went through the Gaillard Cut in a special launch, then went up to see the work on the big new Madden Dam.

"This finished most of the sightseeing, so we returned home to lunch; then afterwards to make a short call on the Acting Governor, Lieut.-Col. C. S. Ridley; then to the Century Club to meet M. I. T. graduates on the Isthmus. Shortly after this, business pulled me away, so Meade Bolton took Dr. and Mrs. Compton for a short sightseeing ride and saw that they were safely on the 4:40 train headed for Cristobal on the Atlantic side. This is a great place to see but it can't be 'done' properly in less than three to five days. We almost got Dr. Compton to promise to return next year for a more extended visit so we could really show him this outstanding military achievement of the United States."

Ben F. Powell, I, home from West Africa, has the following report on himself: "I am now General Superintendent of Construction on the Wichita National Forest (in Oklahoma), and am engaged in a large construction program. I work directly under Mr. H. H. French, the Forest Supervisor, who is keenly interested in making his forest the most useful in the entire U. S. A. — The foreign palaver seems to be over for a while, but he who has tasted of the butter pear will always long to return."

The Annual Alumni Dinner at Walker on February 17 was a record breaker so far as 1923 attendance was concerned. Those present included Messrs. Averill, Bond, Burke, Carper, Conley, Cutting, Drew, J. H. Evans, Flaherty, Frazier, Gardner, Hendrie, Hershey, C. T. Jackson, D. F. Jones, Kattwinkel, Joseph Nissen, Proctor, Si Rice, Dave Skinner, A. Williams, H. S. Young, and Zimmerman. — HORATIO L. BOND, *Secretary*, 195 Elm Street, Braintree, Mass. JAMES A. PENNYPACKER, *Assistant Secretary*, Room 661, 11 Broadway, New York, N. Y.

## 1924

Our ten-year reunion will differ from the five-year event in at least three ways: (1) 1934 salary levels compared with our 1929 average will resemble the deflation of the "big bull" market. The term "big bull" is not intended to have any further allusion to the glorious affair of five years ago. (2) The thirst quenching fluids, both amber and water colored, should be legal, though not necessarily any better. (3) Reel #2 of the 1924 Follies has been found and will reveal the intimate details of the past life of several of our more or less famous notables. The Institute turned us out at an auspicious time in the recent prosperity cycle. We celebrated in 1929.

Our ten-year reunion is also auspicious. Let's meet, celebrate, and begin the next upswing of "happy days" that are to come, the while not forgetting to profit by some of the lessons of the late-lamented cycle.

So here's to George Parker's honors as a family man, to Charlie Phelps' capacity (?), to John Duffy's subconscious traveling mind, to Greg Shea's seamanship with sick passengers, to Nip Marsh's

*1924 Continued*

talent with the galloping dominoes. We'll be seeing you at the 1924 ten-year reunion.

The foregoing is from Bill Robinson, our genial President, now managing the West Coast for 1924. If the last line of his is a guaranty, he should come pretty close to collecting the distance prize at our reunion. Will there be such a prize, Bill Correale?

On December 1, 1933, Miss Marion Willcox of Little Falls, N. Y., was married to Addison K. Wills in the Chapel of St. Thomas's Church, New York. Mr. and Mrs. Wills will reside in Binghamton, N. Y., where he is an electrical engineer with the American Telephone and Telegraph Company. — A forthcoming wedding, the engagement having just been announced, will be that of Miss Jessie Brainard of Jersey City to Richard W. Southgate. Date is not known. Dick is with the Public Service Electric and Gas Company. — HAROLD G. DONOVAN, *General Secretary*, 372 West Preston Street, Hartford, Conn.

## 1926

Cynical Easterners have remarked of the West that it is impossible to tell the truth about it without lying. The doughty Class of 1926 presents at times a reportorial problem equally difficult. After a seven-months' news famine, the secretariat suddenly finds itself with an overwhelming amount of material to crowd into a column that is seriously shrunken, like a stomach deflated by long malnutrition. And much of the material is of such importance that it is difficult to eschew modest exaggeration.

One reason for the sudden multiplication of news items was the Annual Alumni Dinner, at which, hear ye all, the Class of 1926 had by far the largest number in attendance of any Institute class. This fact was suitably and noisily celebrated at the dinner itself by the 43 or more '26 men, and it was appropriately announced by the President of the Alumni Association, who presided over the dinner.

It was particularly fitting that the class should turn out such a record-breaking number, since one of its members had an important part in the dinner's program — Joseph Levis, America's greatest foilsman. I refer you to the liturgical prose of Allan Winter Rowe in his '01 notes for a more extended account of Joe's participation in the program. You see, our reputation has grown to such an extent that other class secretaries find it propitious to enliven their own class notes with choice items about '26 men. When the dinner was over Flint Taylor, who led cheers out of the T. C. A. Bible, was heard to remark "What a jolly good time," indicating thereby his recent rereading of "Little Women."

Preceding the Alumni Dinner, the Class met for high tea at the University Club and toward the end of this quiet and sedate affair, what purported to be a business meeting was held and two questions were placed before the members present. First, they were asked by Eben Haskell to make suggestions as to the future conduct of the Class Endowment Fund. The upshot of this was the appointment of a committee, consisting of John Wills, I. R. MacDonald, Flint Taylor, and John McMaster, to confer with Eben, the class officers, and Bursar Horace Ford and to act with power in effecting changes in the endowment plan. Second, the question was raised as to when the next reunion would be held, Dave Shepard having suggested that, instead of coming in June of our tenth year, it be held coincidentally with the All-Technology Reunion in 1935. The majority of the group at the University Club were in favor of this, providing the class was afforded an opportunity for one or two private assemblies. Of course, a few were entirely mugwumpish on both questions as indeed they well might be on an occasion so unbusinesslike and post-Volsteadian. By the bye, have you heard the English definition of mugwump — a bird that sits on a fence with its mug on one side and its wump on the other?

The Secretary presents with pleasure excerpts from a letter received from Robert P. Ellis, Jr., unheard of in these columns since graduation. Note Ellis's restrained description of a career of derring-do. "There is little to say about what I have done since leaving school, but a brief outline is as follows:

"Eighteen months with the Packard Electrical Company in Warren, Ohio, designing transformers. (I was pretty good in doing this electrical work inasmuch as my training at Technology had been in the Civil Engineering Department!) After that I went to work for the Frederick Snare Corporation and have been with them since, traveling and doing construction work in the United States, Colombia, Puerto Rico, Panama, and Peru. In Peru I spent about two years on the construction of the new port of Callao and other work in Lima, and here in Colombia I have been located for about two years on the construction of the new Cartagena Terminal, as resident engineer. . . .

"In 1928 I married Miss Isabelle Deming of New Orleans and Houston and she has been with me on practically all of my trips and construction work. We have a young son, now 27 months old, who is growing up speaking only Spanish.

"We find it quite pleasant here in Cartagena, having a cottage especially built for these climates and located on a beach where we enjoy good bathing. However, one has to be a little bit careful when bathing, due to the barracuda and an occasional alligator. A couple of months ago I shot a seven-foot alligator about 500 yards from our house.

"There is little to do here in the way of enjoyment, except tennis, some fishing, and hunting. This latter sport is quite good for all kinds of birds, including quail, doves, pigeons, and duck, the last quite plentiful, and it is not unusual for four or five of us to go out and bring back some 150 to 200 ducks."

G. Malcolm McNeil was at the Institute recently on an inspection tour for the Factory Mutual Fire Prevention Service. He has had an extraordinary number of contacts with '26 men and I report some of the tidbits he left with me: Bob Nisbet, when not in Bermuda, practices mechanical engineering for G. E. in Schenectady. — R. G. Spear is with the AC Division of General Motors in Flint, Mich. — John Oakley and Larry Randall are helping to make Goodyear tires. — Alonzo Ruff is with the York Ice Machinery Company acquiring fame by designing new air conditioning gadgets. — Benny Masterman is with the refrigerating division of the above company in New York. — Don Wheeler sells his talents to the Union Bag and Paper Company, Hudson Falls, N. Y. — Bill Hinckley is back in Boston working for the Whiting Milk Company. The Secretary extends an urgent and cordial invitation to Malcolm McNeil to return to the Institute as often as possible and further to disgorge some of his encyclopedic knowledge of the class personnel.

Donald K. Sampson is working for the Massachusetts Department of Public Works at the new bridge now under construction over the Mystic River in Medford. — John Deignan is engineer on location at the Madden Dam in Panama. — The engagement of Miss Dorothy Troy to Chester Buckley of Taunton has recently been announced.

The following '26 men were present at the Alumni Dinner (am I omitting anyone?): Ted L. Soo-Hoo, Winslow A. Russell, Alfred P. Steensen, E. B. Haskell, J. B. Wilbur, J. R. Killian, Jr., A. H. Dolben, G. W. Bates, J. E. McMaster, Joseph Levis and three guests, Phil Hatch, Harold Fox, C. H. Olander, C. M. Pickett, John Harding, Alex Fisher, John Wills, R. C. Dean, G. R. Peterson, M. Margolin, L. Merrick, Cecil Ogren, Elton Staples, I. R. MacDonald, C. S. Draper, W. P. Lowell, Jr., F. N. Cramton, F. A. Wilkinson, Flint Taylor, G. W. Smith, Nathan Pearlstein, A. W. K. Billings, B. G. Constantine, S. S. Perry, C. B. McFarland, F. M. Toperzer, C. F. Buckley, E. P. Capone, H. A. Willoughby, R. W. Johnson, A. S. Ford, White, W. H. Borghesani. — J. RHYNE KILLIAN, JR., *General Secretary*, Room 11-203, M. I. T., Cambridge, Mass.

## 1927

On Saturday, February 17, as you will read elsewhere in the Review, there was a Home-coming Dinner for all Technology Alumni. It was felt that such a golden opportunity for a '27 get-together could not be overlooked, and as a result, the following members of the clan met at the University Club at four o'clock to "hash things over": Ralph Stober, Joe Burley, Alan Beattie, Dike Arnold, Bill Taggert, Piper, Jack Boyle, Bill Byron, Bill Tougas, Johnny Crawford, Bob Wise, Glenn Jackson, Ray Leonard, Dick Hawkins, Ezra Stevens, and Ray Hibbert. To say the least, those present felt the occasion was well worth our while and worthy of repetition. To describe

*1927 Continued*

adequately the proceedings at our meeting would require the scientific effort of sound-recording equipment; therefore, I shall just report this meeting as being successful and complete with no casualties.

Ray Leonard was unable to carry on with us at Walker, but we found several other '27 men who had been unable to join us earlier in the afternoon, waiting for us at Walker Memorial. Among these were Bill Berkeley, Tom Dunn, Carl Peterson, Win Puffer, and Harry Franks. There will be opportunities in the future for similar get-togethers, and when they appear, we hope to have a larger turn-out than we had this time. Rest assured we will have a good turn-out from those who participated in the recent affair.

Harold Edgerton participated very prominently in the after-dinner festivities when his high-speed motion picture camera film was shown to the alumni. Edgerton, who developed the high-speed technique of motion picture photography, is still connected with the Institute.

Word has come from Birmingham, Pa., of the engagement of Miss Virginia Grier to Rene Smith of Leominster, Mass. Miss Grier graduated in 1924 from the Birmingham School and later the Old Colony School in Boston. Since then she has been connected with the Birmingham School and the wedding will take place there in June. Rene has been with duPont at Leominster since graduation. Miss Grier is a sister of Tom Grier, who, we understand, is now teaching at the Birmingham School.

Sid Blandford spent last year at the Colorado School of Mines and is now doing sales work in the Middle West. P. C. Eaton is back at the Institute after having taught at Exeter, taken a degree at Harvard, and written some sort of textbook. He is in the English Department.

Dick Hawkins is still in Boston with the Minneapolis Honeywell Company working on special projects adapting their various regulators to special uses. Dick must have had a pretty difficult time getting back to work when he took this job, as he had spent several months in Bermuda with nothing but golf and swimming on his mind. Allen Beattie is warehouse superintendent for the A. & P. Company in Boston, and wants it known that he is still single and does the town up once in a while.

It is still necessary for us to dig into ancient history to bring you news of some of the boys, and in doing this we find that Bobby Wallace is with the Stutz Motor Company in Indianapolis. Bob was in Boston about two years ago and at that time was driving around the country exhibiting a high-powered, custom-made Stutz.

Bert Castner, we believe, is still in Delaware making bigger and better explosives for a powder company. Joe Harris is in the Advertising Department of the Shell Oil Company in Boston. Dice Coburn is making coke for the Wisconsin Steel Company at their Chicago by-product plant. A Christmas card from Dice confirmed the rumor that he is now married.

On February 5 the latest officially recorded heir to the class of '27 came to Mr. and Mrs. George Rogers Copeland. Named James Rogers Copeland, he weighed seven pounds, two and three-quarter ounces, measured 20 inches, had black hair and blue eyes. His footprint is also recorded in the official announcement but, unfortunately, the place of birth is missing. George will bring us up to date in order that our records may be complete.

In the next Review we hope to have the coöperation of the course secretaries, and in order for them to carry on successfully, it will be necessary for you to write them and give all the news you can. At the so-called meeting at the University Club, there was a marked interest and desire for Review notes. With your coöperation, we are sure that 1927 will in the future be regularly represented. — JOHN D. CRAWFORD, *General Secretary*, General Radio Company, Cambridge, Mass. RAYMOND F. HIBBERT '27, *Assistant General Secretary*, 920 Consolidated Gas Building, 250 Stuart Street, Boston, Mass.

COURSE I

To Chuck Topping we must present the title of Course Adventurer. Most of you will remember that Chuck has been in Persia on railroad construction. Here's the latest chapter.

"We had a whirlwind year of hard work, which ended in one of those cataclysmic changes so common to Persian politics and now a Danish firm is building the railway. For the past five months I've been touring Persia and seeing the sites of so much of the old world's history. Today I start work as engineer for the University of Pennsylvania expedition to Ray, whose ruins date back to before the time of the Medes.

"The only Tech man I've met recently is Walter Houser, once a math professor or something, now with the Metropolitan Museum of Arts expedition excavating Kosr i Abu Nasr in the beautiful valley of Shiraz in South Persia. I've just visited him. During the trip I spent a night in the harem of Xerxes, at Persepolis, reconstructed by the University of Chicago expedition." Chuck can be reached in care of the American Consulate, Teheran, Persia.

A request in our last notes has been indirectly answered. Jack Luby's address is 1671 Scheffer Street, St. Paul, Minn. More important, Mary Virginia Luby was born on August 5, 1933. — After a pleasant, long vacation of unemployment, I am once again back at work — in the engineering department of the West Virginia Pulp and Paper Company, offices at 230 Park Avenue, New York. — GEORGE P. PALO, *Secretary*, 426 East 238th Street, New York, N. Y.

## 1929

Judging from the comments that come in from those who have been heard to comment on our five-year reunion plans, the majority are in favor of this coming June as a date. In order to organize properly, an immediate decision must be made in regard to our reunion. Before you read this you will have received definite word by mail of our detailed plans. Unless it is advisable to change later, our plan will be to hold forth around the week-end of the Commencement Exercises in some accessible spot around Boston. The Class of '28 very highly recommends the Toy Town Tavern at Winchendon, Mass., as a fine reunion spot, where we can enjoy fine meals and lodging, golf, swimming, beer, and so on, at reasonable cost. That will probably be the locale if satisfactory arrangements with the management can be completed.

Let's all get behind our reunion and make it rival the 1928 turnout of last summer. Flyers will be sent out to you from time to time informing you of the progress made in contributing to the news. Brig asks what the deadline is for news for publication in The Review. My notes must be in The Review office at nine A.M. on the 25th of the second month previous to the date of publication; for instance, material for inclusion in the May Review must be in The Review office at nine A.M., March 25. Any news that reaches me a few days before that date will get into the next succeeding issue. Brig's two letters follow: "It was good to hear from you. It is strange that in the same mail I should have letters from my old gal in Boston, now married with the usual encumbrances, a letter from Bill Aldrich, Ted Ewald, and Eric Bianchi. It is about time that we decided on a class reunion this June. The ones that I have been able to contact are few, most of them in Boston or New York, and they are all much in favor of a get-together this June. Bill Aldrich is out in Wyoming and is definitely coming. Said he has been saving up since graduation for this affair and will be very disappointed if they (or rather we) don't furnish him some company while he is in Boston. He said that he would corral McCaskey and Marlow out in Montana and bring them along. From what Ted Ewald said when I talked with him on the 'phone the other day when I was home, we will get a good crowd from New York. I am in favor of a reunion, but we should make a definite decision prior to April 15.

"I am still just as horrible on this old war horse of a typewriter, but I know that you can read it a lot better than my long hand. It is a lot easier to dictate than to think of what you want to say, put it on paper at the same time, and hit the right key. — Bruce and I just got a kitten and about a nine-month-old German shepherd dog. It just about tears our house to pieces, but they are one h— of a lot of fun and the dog is a great companion. I take him along with me on all my trips and I have him trained now so that he is swell company. — I have been playing professional basketball here this winter with a different name each game and have been able to finally get back into shape. . . . I play at least two nights a week and usually four. It has raised the devil with my appetite and is costing me money for food and inci-

*1929 Continued*

dentally has put on about five pounds over what I have weighed since I left school. . . .

"I may change my job by the next time you hear from me. My dad has offered me a pretty good proposition to take over his business in New Rochelle. He has just been made President of the bank at home (the one that is still open). The job looks good to me and will let you know about it as soon as I get something definite from him. I may be asking you all for your insurance after a while, but I guess that a good percentage of the class are asking you the same thing from the few letters I have received on the subject. . . .

"I hope that this finds you and your wife well and that we can arrive at some decision on the question of reunion before Easter. Try to think of all the fellows that you know in Boston who would be willing to lend us a hand. I think that Eric, Fish, Powley, Peskin, Worthen, and a few others will take a load off our minds if we ask them. You probably know some others located there. I do but I can't recall them at the present moment.

"We should get someone in New York to do the honors for us there. Paul Keiser is located there and might be a good one for us to have round up the New York aggregation. Osborne is there some place, Ted Ewald, and probably several others. There are several in Philadelphia whom I should be glad to carry up with me, some are in Pittsburgh, but I don't have a single address there now. Schenectady should furnish several. It may be that most of them are fired now. Cleveland will get Jerry Palmer only, according to my records. Chicago will cover quite a number and it is our job to acquaint them since it may cut down their transportation enough to enable them to make the trip.

"Let me know immediately when you decide. I personally would like to have the reunion as originally planned and everyone I have talked to would also, but of course they have all been from the eastern seaboard and consequently will not have excessive transportation costs. I am confident that we can get 20% of our class and I don't feel that we could normally expect much more than this.

"Had a letter from Fish Hills, the first since we graduated, I believe, and he had good news about many. He is married as you know. He said that Charlie Denny blew into town (Boston) late last fall. . . .

"Fish is working for Dewey and Almy and his home address is 11 Lockeland Avenue, Arlington, in case anyone wants it. Fish is, of course, all in favor of a reunion and apparently spent a good deal of time calling other fellows around and about Boston in the class. He said that everyone of them wanted a reunion this June. Since they are in Boston they will not have to worry as much about the financial end of it as we will, but at the same time it is an expression of opinion and we will make them support it. Fish also said that he would be glad to do all that we wanted him to to arrange things and get other fellows around Boston to lend a hand.

"Eric and Kay Dennison Bianchi have a son, David; Ed Powley has two children, Mark Edgar and Betsy; Fish is the proud father of two, Frederic and Barbara. John Hallahan is around Boston but that is all I can give you about him. Suggest that he make known his occupation and so on. Jim Magenis is apparently around Boston. I would like to hear more about him. Dewey and Almy have apparently enjoyed a good year according to Fish. That is fine for some of our class. I believe that Dick Pieze is working for them out on the coast.

"Had a letter from Ed Ware. His address is 416 State Street, Carthage, N. Y. Understand they are putting in a new post office in that town. If Ed can help me to get the motors on the job, will appreciate it. I also read in the *Reader's Digest* that all those kids of his are going to be schooled in a new and different manner. It's a shame that they didn't start on the father so that he could make a better maintenance man. Ed is a big shot, I guess. He is assistant to the resident engineer. He works for the National Paper Products Company. . . . He apparently is going right after his job. What a civil engineer can do to help a paper plant I don't know, but perhaps I have the wrong impression because he still has his job. If he would recommend some good Reliance winder drives and some tension drives, and so on, I may think more of him.

"Ed said that he certainly wanted the reunion this June but there is a question as to whether he will be able to be there or not since in a paper mill all the maintenance work is done over week-ends when the machines are shut down. He'll be there if there is any way of getting around it though. — Mace Smith (Amasa G.) is married and it took a Birmingham gal to do it. He slipped last fall and is still working for his wife and the Chicago Bridge and Iron Works in Birmingham. If the old son of a gun can quit his billing and cooing for a few minutes, would like to hear from him. — Ed said that he broke his toe a while back. Good it wasn't his right arm. He wouldn't be quite as good at that beer guzzling as he claims. Have him come to the reunion and really see some beer drinking. . . ." — EARL W. GLEN, *General Secretary*, Box 178, Fairlawn, Ohio.

### 1931

As I write these notes, the wintry blasts make the world a rather dreary place from a weather viewpoint (whether you like snow or not). The person that said that snow news was good news didn't spend this winter around Boston. While battling through a snow storm on the way home from work one night, I met Ed Worden, whose visit to Boston was occasioned by the death of his grandmother. Ed looked fine and reports that everything is fine in New York. He wishes to say hello to the gang. — Met Ed Blake in town a while ago. He is still with Dewey and Almy and reports progress and satisfaction with his work.

Had a letter from Leslie H. Reed which reads as follows: "Having noticed a dearth of news in The Technology Review concerning the members of our class who graduated from Course XVII, I am passing along such information as I have accumulated. Enio Persion was married on September 23 to Miss Loretta Holden of Quincy. The couple left at once for St. Louis, where Enio is working for the N. P. Severin Company on the new Federal Building. Their address is 5528 Pershing Avenue, St. Louis, Mo. — Irv Finberg is in business for himself, doing alteration and maintenance work in Brooklyn. — The writer is still associated with the paternal organization, although business is practically nonexistent at the present time. — I hope the above is something you can use, and I shall try to pass along any further information which comes my way."

Didn't get a chance to go to the alumni banquet, but from Charlie Schroder I learn that it was a success and that there were a goodly number from our class in attendance. Charlie is still working for the State (yes, he's the one). Met him on the way to Framingham and he said that he was going to court, but he didn't say whom he was going to court. . . . Speaking of courting, may we report the following records: The engagement of Miss Germaine L. Beliveau to Phillip L. Brokington. At least it looks as though they have a little "L" in common. Also the marriage of John N. Fricker to Marjory Davis Fallon in Baltimore on January 19.

As the end of the Institute year begins to draw to a close, marking also the end of The Review's year, we should like to hear from the various and sundry members of the class, especially those from whom we haven't heard a word for some time. Drop a line to the address below and let your friends know what you are doing. Until then, don't let the romance of spring get into your blood, but if you do, for Heaven's sake let us know so that we will have something to pass on to the boys. — JOHN M. MACBRAYNE, JR., *General Secretary*, 55 Boylston St., Watertown, Mass.

### 1933

Just returned from the Alumni Dinner and have decided that it was one swell week-end. About 40 of our class were present, which was a fair number, but we should have had more. Those of you who did not attend missed a very enjoyable evening. It was great to see the fellows again.

Now that you fellows are all drawing a weekly check, you should look to the future and take out life insurance. Just drop a line to Dick Hodgdon or Dave Nason, who are connected with the New England Mutual and they will be glad to fix you up. If I said that any other place in this magazine it would cost you something, Dick and Dave. Fred Murphy

*1933 Continued*

is talking textiles like an expert already. There was but one discouraging note to the week-end and I hardly think we ought to darken these pages with their names, but Tom Hayden and Jim Turner have gone Hahvud. They are attending the Harvard Business School.

A few notices have been passed on to me as follows: The engagement of Dick Warner, II, to Miss Katherine Farrand has recently been announced. — Mr. and Mrs. Samuel T. Brattin have announced the engagement of their daughter, Esther Jane, to Newton Buerger, XII. Buerger is at the Institute studying for his doctor's degree. It is with regret that we hear of the death of William Adelson, VIII, in an auto accident on the Newburyport Turnpike. — A. W. Rice, who received his master's with our class in Course XIV, is now studying in the advanced engineering course for student engineers at the General Electric Company at Schenectady, and was recently assigned to the Publicity Department of that company.

Colonel Locke has submitted the following information to me: "R. L. Faulkner '33 is now located with the Cerro de Pasco Copper Corporation at Morococha, Peru. He says he had a wonderful trip down from New York, and his only regret was that the voyage to Callao lasted only two weeks instead of four. He spent a couple of days in Lima, and then up to the high altitude of the mine, going on the payroll at Morococha December 23, after spending a week at Aroya. He suffered from mountain sickness, as is usually the case of a newcomer at Cerro de Pasco. He found a fellow Tech man, L. S. Hayes '23, located next to him in the company house. The very first day of his arrival, in a hail storm, was the occasion of a Christmas formal dinner dance at the Tuctu Club, which gave him an opportunity to get acquainted with everyone. The club has a nice house and library, with 23 members. Incidentally they elected Faulkner a Vice-President at the annual meeting, and one of his jobs is to select new books for the library."

And are these Course XV men making good in a hurry. I understand that Chuck Thumm is President of a plumbing supply house out in Chicago. Walt Duncan has been with the Procter and Gamble Company out in Ohio and was up at the Institute interviewing this year's senior class for Procter and Gamble. That surely sounds as if you are going places, Walt, keep it up.

I have been trying to get some information I am sure you will all be interested in for quite some time. With the help of Bob Kimball and Mr. Nalle of the Personnel Office, we have finally tabulated the employment situation of the class.* I submit this to you without comment except that I should not care to go out now and find 335 positions as has been done by our class.

How about sending some more information down to the "Clearing House" here? — GEORGE HENNING, JR., *General Secretary*, 163 Barbey Street, Brooklyn, N. Y.

### COURSE I

Here's a few notes on Course I, most of which I picked up from Professor Breed's secretary at Tech, on whom I called a few weeks ago. The ranks of the CWA have been swelled by several Course I graduates, notably Messrs. Bradley, Cahaly, Grundman, and Kalman, while Minkus, Daniels, and Coffey have jobs in various fields with the Massachusetts Department of Public Works. — Bill Conant is taking the business course at Babson Institute at Babson Park, Mass. — Gardner Hicks is employed on a survey for the New England Terminal Company in Rhode Island, while Russ Murphy is in the employ of the Providence Public Market nearby.

Gene Nedbor holds the position of Junior Engineer engaged in making an accident survey in his home town. — Peterson is with the Town of Stoughton, in connection with their sewer department, while Swanson is likewise engaged in engineering and surveying. — Paul Petitmermet has a job in the sales line for the New England Spun Silk Company in New York. — Herman Shea, the lone geodesist, has joined up with the United States Coast and Geodetic Survey, and is working in Watertown. — DOUGLAS M. STEWART, *Secretary*, 910 Ostrum Street, Bethlehem, Pa.

### COURSE XVII

Pish, pish; tut, tut; and tisk, tisk, for all your cold weather, yes, all of it! Just when I think it has got good and cold and the stove gets a nice ruddy glow, in comes a letter telling me all about how nice and warm it is down here. You fellows can just go jump in a lake. You're jealous, that's all. Now the next time I write one of you and say it's cold — almost down to zero — I don't want any come-backs like those last ones. When I'm cold, I'm cold, even if you Eskimos say it's balmy in Virginia.

A letter from Bob Crane notifies us that he has officially gone into the "ornamental bronze, aluminum, and other metals; screens, weatherstrip, darkening shade, and Venetian blind business." The Review charges for this, but we'll give him the advertisement gratis this time.

It's a long story, but Bob thinks the world is more worthy of his efforts and he pulled out from the secluded life of the scientific investigator. Bob Becker '34 took his place in the laboratory.

I'm afraid Coop has forgotten us all; there wasn't a reply to a letter I took time out to write and he hasn't done anything about that postal reminder that went after it a couple weeks later. And Sully ought to sort of brush up on his correspondence, too.

Virginia rains and freezes keep me here still with about half the days lost because of bad weather. So far as is known, everyone else keeps plugging along. — BEAUMERT WHITTON, *Secretary*, c/o Southeastern Construction Company, Box 173, Hampton, Va.

*REPORT ON EMPLOYMENT OF 1933 GRADUATES — February 19, 1934

| Course | Employed No. | Employed Per Cent | Graduate Work No. | Graduate Work Per cent | Unemployed No. | Unemployed Per cent | Not Heard From No. | Not Heard From Per cent | Total No. |
|---|---|---|---|---|---|---|---|---|---|
| I | 24 | 42.1 | 4 | 7.0 | 23 | 40.4 | 6 | 10.5 | 57 |
| II | 54 | 55.8 | 8 | 8.3 | 29 | 29.9 | 6 | 6.2 | 97 |
| III | 10 | 55.5 | 6 | 33.3 | 2 | 11.1 | 0 | 0.0 | 18 |
| IV | 14 | 34.2 | 9 | 22.0 | 15 | 36.6 | 3 | 7.3 | 41 |
| V | 14 | 53.8 | 10 | 38.4 | 2 | 7.7 | 0 | 0.0 | 26 |
| VI | 44 | 51.2 | 9 | 10.5 | 29 | 33.7 | 4 | 4.65 | 86 |
| VII | 9 | 42.9 | 10 | 47.6 | 2 | 9.5 | 0 | 0.0 | 21 |
| VIII | 6 | 37.6 | 7 | 43.8 | 3 | 18.8 | 0 | 0.0 | 16 |
| IX | 5 | 27.8 | 5 | 27.8 | 6 | 33.3 | 2 | 11.1 | 18 |
| X | 56 | 66.6 | 15 | 17.9 | 13 | 15.5 | 0 | 0.0 | 84 |
| XI | 1 | 50.0 | 0 | 0.0 | 1 | 50.0 | 0 | 0.0 | 2 |
| XII | 0 | 0.0 | 1 | 20.0 | 2 | 40.0 | 2 | 40.0 | 5 |
| XIII | 20 | 71.4 | 2 | 7.1 | 6 | 21.4 | 0 | 0.0 | 28 |
| XIV | 4 | 50.0 | 1 | 12.5 | 3 | 37.5 | 0 | 0.0 | 8 |
| XV | 41 | 76.0 | 2 | 3.7 | 8 | 14.8 | 3 | 5.5 | 54 |
| XVI | 17 | 53.1 | 5 | 15.6 | 8 | 25.0 | 2 | 6.2 | 32 |
| XVII | 6 | 66.6 | 0 | 0.0 | 3 | 33.3 | 0 | 0.0 | 9 |
| XVIII | 3 | 30.0 | 4 | 40.0 | 3 | 30.0 | 0 | 0.0 | 10 |
| To receive degree fall 1933 | 7 | 64.4 | 0 | 0.0 | 4 | 36.4 | 0 | 0.0 | 11 |
| TOTALS | 335 | 53.8 | 98 | 15.8 | 162 | 26.0 | 28 | 4.4 | 623 |

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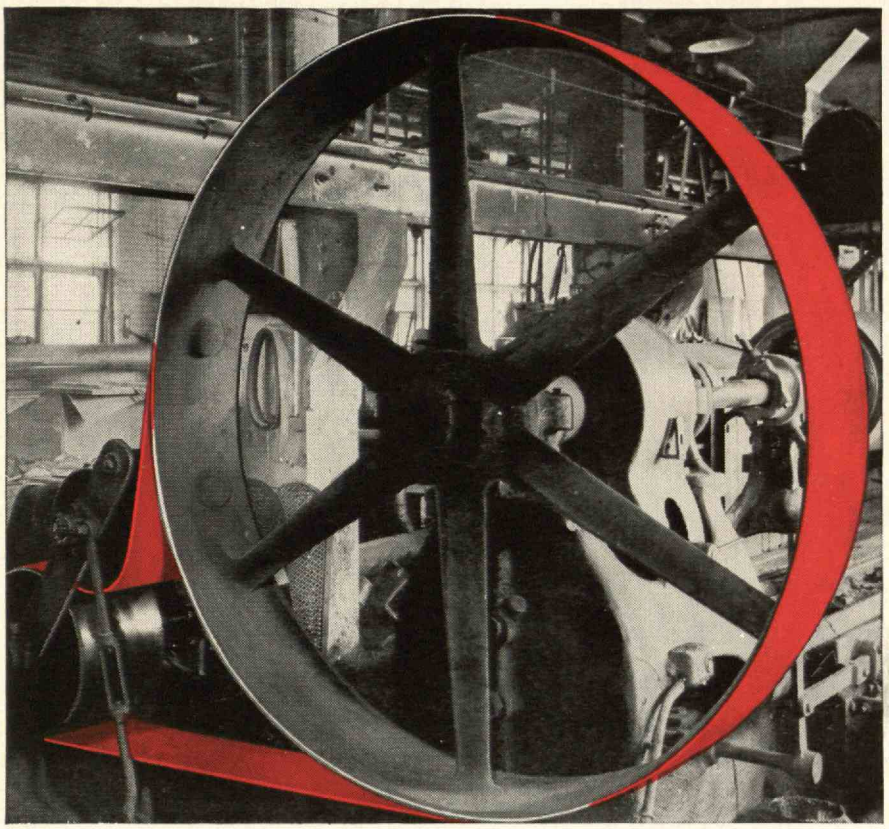

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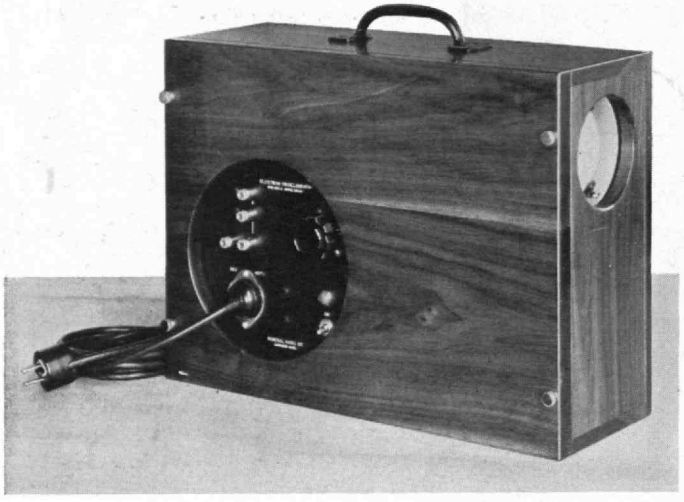

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